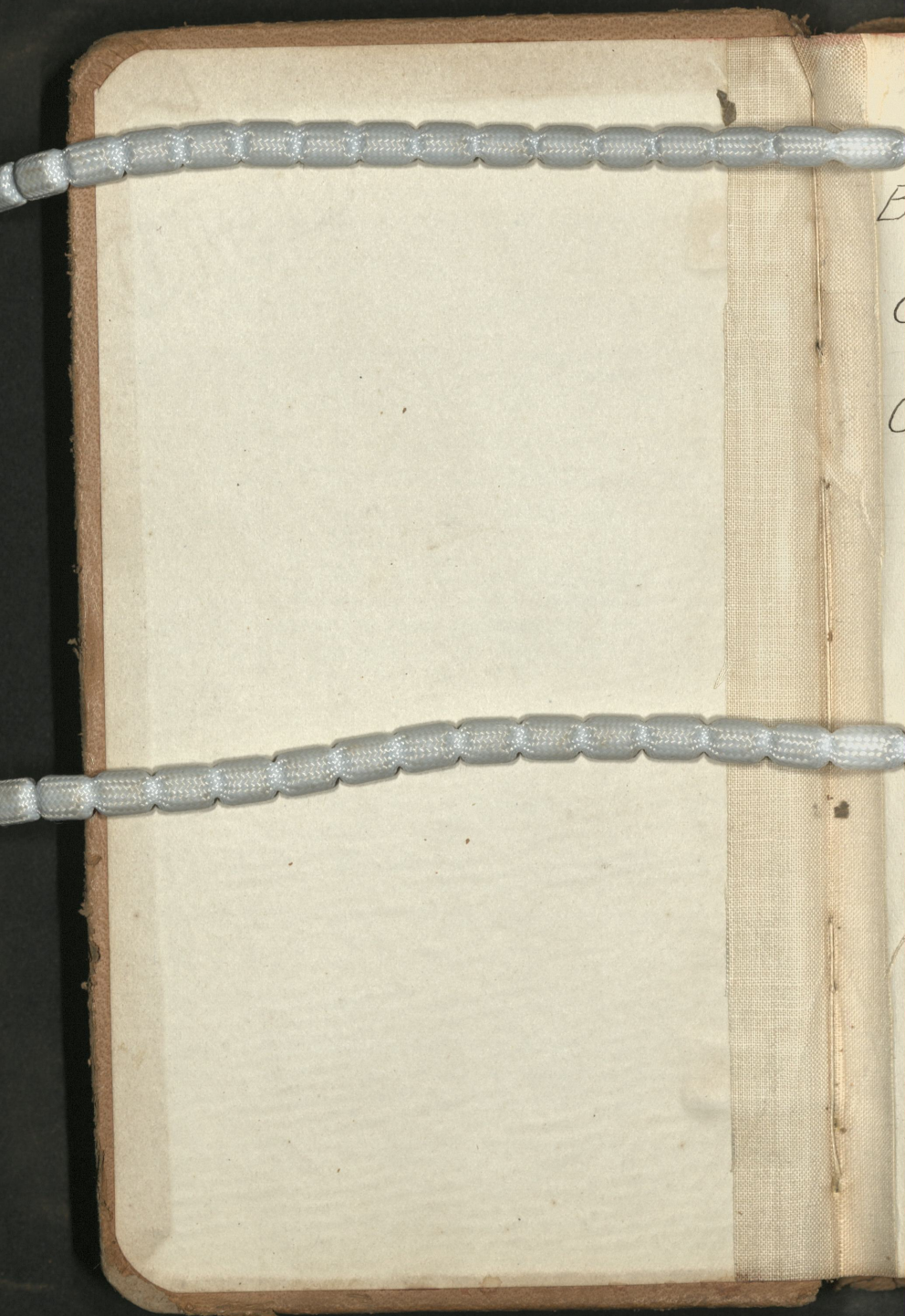


92

64-B8

LEVEL BOOK

410.

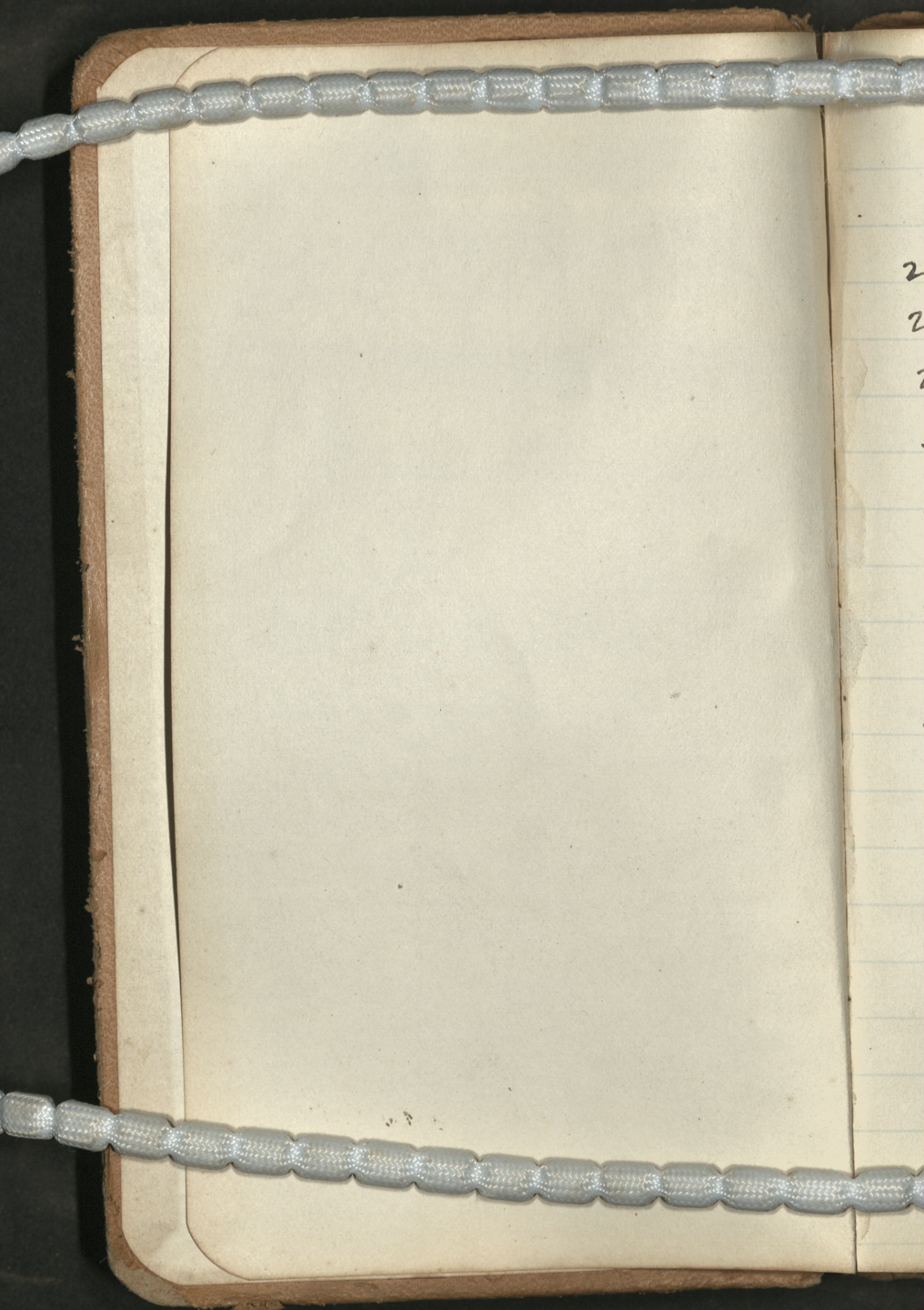


BRADSHAW MOUNTAIN R.R.

CROWN KING BRANCH

Construction Notes

Book ~~No.~~ 10



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Section - 0

Sta. Grades L C R E

0-50 $\begin{array}{r} +42 \\ 10.3 \end{array}$ +54 $\begin{array}{r} +62 \\ 9.6 \end{array}$

0-40 $\begin{array}{r} +52 \\ 9.3 \end{array}$ +50 $\begin{array}{r} +52 \\ 9.3 \end{array}$

Boulder 3x3x6 = 2 c.y.

0-25 $\begin{array}{r} +62 \\ 9.6 \end{array}$ +42 $\begin{array}{r} +42 \\ 9.1 \end{array}$

0-10 $\begin{array}{r} +82 \\ 10.1 \end{array}$ +62 $\begin{array}{r} +32 \\ 8.8 \end{array}$

0+10 $\begin{array}{r} +7.6 \\ 9.9 \end{array}$ +62 $\begin{array}{r} +58 \\ 9.5 \end{array}$

Boulders 5x8x10 = 16.8 c.y.
3x3x6

+30 $\begin{array}{r} +52 \\ 9.3 \end{array}$ +40 $\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+50 $\begin{array}{r} +4.0 \\ 9.0 \end{array}$ +20 $\begin{array}{r} 0.0 \\ 6.0 \end{array}$ $\begin{array}{r} -12 \\ 8.8 \end{array}$

+65 $\begin{array}{r} +2.2 \\ 8.6 \end{array}$ +20 $\begin{array}{r} 0.0 \\ 6.0 \end{array}$ $\begin{array}{r} -0.6 \\ 8.0 \end{array}$

0+80 $\begin{array}{r} +1.0 \\ 8.3 \end{array}$ $\begin{array}{r} 0.0 \\ 6.0 \end{array}$ -10 $\begin{array}{r} -2.4 \\ 10.6 \end{array}$

1

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.

115.33

Skip 10.6
37.7 Hao-50 to 1480 ¹/₂ 540.8 C.Y.

88.10

S 5.5 Class Skip To River 51.9"
2.0
46.9 Balance Solid " 488.9"

80.87

S. 12.5 Haul 3 1/4 N per
51.4 " 400 ~ 0 to 3 = 1200

104.19

S. 10.9
80.7

113.74

S. 4.5
16.8
62.6

55.40

0.00

S. 4.7
32.0 0.1

31.00

0.60

S. 2.7
15.1 0.3

23.40

0.30

S. 0.5
6.9 4.7

1.00

16.70 403.9

5.1

Ward

Sta. Grade

	L	C	R
1	$\frac{+26}{8.7}$	$+1.5$	$\frac{+12}{6.0} \frac{av}{8.0}$

+25	$\frac{+0.8}{8.2}$	av	$\frac{av}{8.0}$
-----	--------------------	----	------------------

Boulder 3x3x6 = 2.0 c.f.

+40	$\frac{+1.0}{8.3} \frac{av}{2.0}$	-1.0	$\frac{-2.6}{10.9}$
-----	-----------------------------------	------	---------------------

+60	$\frac{+0.8}{8.2}$	av	$\frac{-2.8}{11.2}$
-----	--------------------	----	---------------------

+80	$\frac{av}{8.0}$	-1.3	$\frac{-2.0}{10.0}$
-----	------------------	------	---------------------

2	$\frac{-1.0}{8.5}$	-1.8	$\frac{-2.2}{8.9} \frac{-5.6}{15.4}$
---	--------------------	------	--------------------------------------

2+16.7 5813.72

+20	Rdb. 7.0 on "L" $\frac{-1.2}{8.8}$	-1.8	$\frac{-6.0}{16.0}$
-----	------------------------------------	------	---------------------

+50	" 8.0 on "L" $\frac{-1.5}{10.2}$	-2.4	$\frac{-6.4}{16.6}$
-----	----------------------------------	------	---------------------

+75	" 11.6 on "L" $\frac{-1.2}{13.4}$	-3.4	$\frac{-6.4}{16.6}$
-----	-----------------------------------	------	---------------------

0 3

includes "Line Sta 0 to 1+30" →

	" 15.4 on "L" $\frac{-1.6}{17.8}$	-3.5	$\frac{-5.8}{15.7}$
--	-----------------------------------	------	---------------------

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.
26.23	0.00	403.9	5.1
		10.1	4.1
		13.6	
3.20	0.00	2.0	
		1.7	4.3
3.00	15.55		
		2.3	9.4
3.20	9.80		
		0.8	10.5
0.00	18.70	434.4	
		106.4	54.
		540.8	
			19.0
	32.49		
			29.6
	47.52		
			60.0
	60.56		
			65.2
	80.36		
			79.5
	91.24		286.7

51.9
Ship

wad

Sta Grade

L

C

R

3+45 back $\downarrow$ Rdb 21° on "L" $\begin{array}{r} -1.8 \\ 237 \\ \hline 14.0 \end{array}$ $\begin{array}{r} -23-28 \\ 14.0 \end{array}$ $\begin{array}{r} -6.0 \\ 16.0 \end{array}$

3+45 ahead $\uparrow$ Rdb 7.0° on "L" $\begin{array}{r} -2.8 \\ 7.0 \end{array}$ $\begin{array}{r} -3.0 \end{array}$ $\begin{array}{r} -6.0 \\ 16.0 \end{array}$

+65

Box Culvert 1' x 4' 3" x 40'

H

" 11° on "L" $\begin{array}{r} -1.0 \\ 12.9 \end{array}$ $\begin{array}{r} -2.0 \end{array}$ $\begin{array}{r} -5.2 \\ 14.8 \end{array}$

+25

" 15° on "L" $\begin{array}{r} -0.8 \\ 16.2 \end{array}$ $\begin{array}{r} -2.2 \end{array}$ $\begin{array}{r} -5.8 \\ 15.7 \end{array}$

4+50 back " 21° on "L" $\begin{array}{r} -1.0 \\ 22.5 \end{array}$ $\begin{array}{r} -1.5 \\ 14.0 \end{array}$ $\begin{array}{r} -5.4 \\ 15.1 \end{array}$

4+50 ahead " 7° on "L" $\begin{array}{r} -2.0 \\ 7.0 \end{array}$ $\begin{array}{r} -2.6 \end{array}$ $\begin{array}{r} -5.4 \\ 15.1 \end{array}$

+75

-3.0

$\begin{array}{r} -2.6 \\ 10.9 \end{array}$ $\begin{array}{r} -3.2 \end{array}$ $\begin{array}{r} -5.2 \\ 14.8 \end{array}$

5

$\begin{array}{r} -3.8 \\ 12.7 \end{array}$ $\begin{array}{r} -3.8 \end{array}$ $\begin{array}{r} -4.5 \\ 13.7 \end{array}$

+50

$\begin{array}{r} -2.4 \\ 10.6 \end{array}$ $\begin{array}{r} -3.2 \end{array}$ $\begin{array}{r} -4.2 \\ 13.3 \end{array}$

C +65

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$ $\begin{array}{r} -1.2 \end{array}$ $\begin{array}{r} -4.0 \\ 13.0 \end{array}$

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.
	100.60		286.7 159.9
	65.30		
			119.1
	51.60		
			52.3
	61.39		
			64.1
	77.10		
			was
	54.63		
			57.0
	68.42		
			68.3
	79.21		
			130.1
	61.34		
			24.4
000	26.60		961.9

Sta. Grade
 5+71.70 5802.72
 5+75

L C R.
 $\frac{+3.0}{8.1}$ $+1.4$ $\frac{+1.4}{7.0}$ $\frac{0.0}{8.0}$

+90

$\frac{+2.0}{8.5}$ $\frac{0.0}{3.0}$ -1.0 $\frac{-4.0}{13.0}$

6

$\frac{+3.4}{8.9}$ $\frac{0.0}{4.0}$ -1.0 $\frac{-3.8}{12.7}$

Boulders $3 \times 3 \times 6$ = 40 c.f.
 $3 \times 3 \times 6$

+15

$\frac{+3.0}{8.8}$ $\frac{0.0}{3.0}$ -1.5 $\frac{-3.6}{12.4}$

+40

$\frac{+1.0}{8.3}$ $\frac{0.0}{5.0}$ -1.8 $\frac{-2.8}{10.9}$

+50

$\frac{+0.8}{8.2}$ 0.0 $\frac{0.0}{8.0}$

+55

$\frac{+1.0}{8.3}$ $+0.8$ $\frac{+1.4}{8.4}$

+60

$\frac{+1.4}{8.4}$ $+0.4$ $\frac{0.0}{8.0}$

+70

$\frac{0.0}{8.0}$ -1.6 $\frac{-3.0}{11.5}$

7

$\frac{0.0}{8.0}$ -0.6 $\frac{-0.8}{8.2}$

Areas. Cub. yds.
Exc. Emb. Exc. Emb.

28.66 0.00 slip 0.7 961.9
3.5 3.3 Sta 0+30 to 6+50
s. 2.3
9.3 4.1 Emb 1016.4 cu.

5.00 22.00 s. 0.9 903.1 made from
2.2 8.1 Cuts + swell.

6.80 21.65 1.6 balance 1033 113.3 from
4.0
4.0 12.7 Bits 1 Sta 34 + R

7.50 24.15 s. 1.1 6+30 see Page 34
4.2 22.0 Class Earth 113.3

1.50 23.41

0.9

4.3

wood

3.20 0.00

1016.4

1.8 Sta 5+65 to 6+70 Exc 69.0 cu.

16.28

Class Slips to Rock 6.6 "

2.3 Balance Solid " 62.4 "

8.88 0.00

Haul So. from

1.1

3.2

0.00 26.10

39.9

29.15 G.

69.0

18.8

22.0

7.66

balanced
by iron wire
page

Sta. Grade

L

C

R

7+15

-3.50

 $\frac{-1.0}{8.5}$

-1.0

 $\frac{-1.0}{8.5}$

7+152 5797.70

7+35

 $\frac{-3.0}{11.5}$

-3.2

 $\frac{-2.6}{10.9}$

+55 H.B.

 $\frac{-4.6}{13.9}$ $\frac{-4.0}{7.0}$

-4.0

 $\frac{-4.2}{7.0}$ $\frac{-3.8}{12.7}$

+60 100

 $\frac{-6.0}{9.0}$ $\frac{-6.0}{9.0}$ $\frac{-3.8}{5.7}$ $\frac{-4.8}{7.2}$ $\frac{-4.4}{6.6}$

+88 151

3.20

 $\frac{-3.4}{5.1}$ $\frac{-4.4}{6.6}$ $\frac{-4.4}{6.6}$ $\frac{-4.6}{6.9}$ $\frac{-4.8}{7.2}$

7+95 H.B.

 $\frac{-3.0}{11.5}$ $\frac{-4.4}{7.0}$

-4.6

 $\frac{-4.6}{7.0}$ $\frac{-5.0}{14.5}$

8+10

 $\frac{-2.4}{10.6}$

-2.6

 $\frac{-2.6}{10.9}$

+25

 $\frac{-1.8}{9.7}$

-2.0

 $\frac{-3.4}{12.1}$

+50

 $\frac{-1.4}{9.1}$

-2.4

 $\frac{-3.6}{12.4}$

Boulder 2x3x6

= 1.3 c.y.

+75

 $\frac{-0.6}{7.7}$

-0.8

 $\frac{-2.8}{11.2}$

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.

1550

5544

8247

9085

4545

4000

4330

1911

270

64 Sta 6x60 to 9x60

26.3 Emb 117.7 Cy.

made from

51.1 Pit 110' R 6x30

See Page 34

119 Class Borrow

117.7

Earth 108.6 Cy.

Haul 108.6 Cy. 250' = 271.

5 Wall 9.1 Cy.

114

379

23.7

386

1.3

289

1405

Ward

Sta. Grade

L

C.

R

9 back $\frac{-0.5}{7.7}$ -1.2 $\frac{-1.4}{9.1}$

9 chedd $\frac{0.0}{23.0}$ $\frac{-1.0}{15.0}$ $\frac{-0.5}{11.7}$ $\frac{-1.4}{9.1}$

+25 "16° on "L" $\frac{-1.2}{17.8}$ -1.2 $\frac{-1.6}{9.4}$

+50 "12° on "L" $\frac{-1.4}{14.1}$ -1.6 $\frac{-1.4}{9.1}$

+75 "9.4° on "L" $\frac{-1.1}{11.0}$ -1.4 $\frac{-2.4}{10.6}$

10 "8° on "L" $\frac{-1.2}{9.8}$ -1.6 $\frac{-2.0}{10.0}$

+15 Box Culvert $1 \times 2 \frac{1}{2} \times 20$

+35 "8° on "L" $\frac{0.0}{8.0}$ -1.8 $\frac{-2.2}{10.3}$

10+35 $\circ 578746$

+50 $\frac{0.0}{8.0}$ -1.2 $\frac{-2.6}{10.9}$

Boulder $3 \times 3 \times 6 = 20 \text{ c.y.}$

+60 $\frac{+0.6}{8.2}$ 0.0 $\frac{-2.7}{11.0}$

+75 $\frac{0.0}{8.0}$ -2.4 $\frac{-2.7}{11.0}$

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.
	16.73	140.5	16.6 Sta 7+88 to 12+75
			Emb 547.1 C.Y.
	26.38		16.0 made from
			26.8 Cuts balance 531.1
	31.52		borrowed
			class
		29.3	90% ta. 4y 80 cy
	31.86		10% Lo R. 531 "
		28.0	Shoring on side
	28.69		of bank
		26.1	
	27.64		
		33.6	Sta 10+50 to 11+25
	24.17		Exc. 20.8 C.Y. D.R.
		12.4	Haul into fill
0.00	20.44		opposite from
		2.0	
		0.3	5.5
			was
24.0	9.45		
		0.4	11.6
0.00	32.25	2.7	33.4

Sta.	Grade	L	C	R
11		$\frac{+2.8}{8.7}$	0.0	$\frac{-2.4}{2.0} \frac{-2.6}{10.9}$

+25	-3.50	$\frac{0.0}{8.0}$	-2.2	$\frac{-2.4}{10.6}$
11+32.5	578403	$\frac{0.0}{8.0}$	-2.5	$\frac{-4.2}{13.3}$

12		$\frac{-2.2}{10.3}$	-2.5	$\frac{-3.0}{11.5}$
----	--	---------------------	------	---------------------

+25		$\frac{-0.5}{7.7}$	-1.5	$\frac{-2.2}{10.3}$
-----	--	--------------------	------	---------------------

+50		$\frac{0.0}{8.0}$	-1.0	$\frac{-1.7}{9.5}$
-----	--	-------------------	------	--------------------

+75	-3.10	Boulder 3x3x6	=	20 c.y.
		$\frac{+2.0}{8.5}$	$\frac{0.0}{4.0}$	$\frac{-1.0}{8.5}$

13		$\frac{+3.6}{8.9}$	$+1.5 \frac{0.0}{2.0} \frac{-5.6}{6.0} \frac{-7.0}{17.5}$
----	--	--------------------	---

Boulder 3x6x6	=	40 c.y.
---------------	---	---------

+25		$\frac{+3.8}{9.0}$	$\frac{-7.0}{13.0} \frac{-7.0}{17.5}$
-----	--	--------------------	---------------------------------------

+50		$\frac{+1.4}{8.4}$	$\frac{0.0}{4.0} \frac{-2.0}{19.0}$
-----	--	--------------------	-------------------------------------

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.
1120	1958	27 3.5	330.4 24.0
		34	22.4
000	28.86	9.6 11.2	54.
		20.8	32.5
	41.32		
			80.3
	45.45		
			31.7
	22.95		
			17.4
000	14.70	2.0 1.2	8.4
400	350		547.1
		12.3	23.3
22.57	46.90	4.0 17.5	40.3
15.20	40.25		
		8.3	42.2
2.80	5100	45.3	105.8

was

Sta Grade

A

C.

R.

Ex

13+60

$$\begin{array}{r} .00 \\ 80 \end{array}$$

$$\begin{array}{r} .00 \\ 40 \end{array}$$

-1.4

$$\begin{array}{r} -80 \\ 190 \end{array}$$

13+90

$$\begin{array}{r} -.04 \\ 76 \end{array}$$

-1.0

$$\begin{array}{r} -46 \\ 139 \end{array}$$

14+25

$$\begin{array}{r} .00 \\ 80 \end{array}$$

-0.7

$$\begin{array}{r} -28 \\ 112 \end{array}$$

+50

$$\begin{array}{r} +1.0 \\ 83 \end{array}$$

0.2

$$\begin{array}{r} -20 \\ 100 \end{array}$$

+75

$$\begin{array}{r} .00 \\ 80 \end{array}$$

-1.0

$$\begin{array}{r} -140 \\ 130 \end{array}$$

15

$$\begin{array}{r} -.07 \\ 80 \end{array}$$

-2.0

$$\begin{array}{r} -38 \\ 110 \end{array}$$

$$\begin{array}{r} -72 \\ 178 \end{array}$$

+25

$$\begin{array}{r} -1.8 \\ 97 \end{array}$$

-3.0

$$\begin{array}{r} -94 \\ 211 \end{array}$$

+50

$$\begin{array}{r} -1.2 \\ 88 \end{array}$$

-5.8

$$\begin{array}{r} -82 \\ 193 \end{array}$$

+75

$$\begin{array}{r} -2.6 \\ 109 \end{array}$$

-7.4

$$\begin{array}{r} -78 \\ 187 \end{array}$$

16

$$\begin{array}{r} -5.6 \\ 154 \end{array}$$

-8.2

$$\begin{array}{r} -74 \\ 181 \end{array}$$

-310

Areas. Cub. Yds.
Exc. Emb Exc. Emb.

000 55.60 ^{45.3} 0.5 ^{10.58} 19.7 Sta 12+50 to 14+75

46.66 ^{vs} 79.3 @ 4. S. R.

28.25

Haul 3.2 So from

29.0 " 45. N "

000 16.52

1.2

10.9

400 700

Sta 12+75 to 21+80

1.2

14.6 Emb bit 24+28.9 @

000 24.50

^{48.2}

31.1 ^{59.}

439.0 made from

and swell in borrow

79.3

30.3 Cut, balance 19899

40.87

from Measured

58.5 Pits per Paper 34+35

85.40

Class Borrow

92.5 Earth 1498 @ 4.

114.39

Lo. R, 1107.3"

120.6 S R 732.8

145.92

Haul 1560

152.2

wood

182.85

680.6

Sta. Grade

16+02.5 0576946

16+25

L

C

R

-6.6

-7.6

-7.0

16.9

17.5

+50

-6.6

-7.0

-9.0

16.9

20.5

+75

-6.4

-6.4

-9.0

16.6

20.5

17

-5.2

-5.2

-8.0

14.8

19.0

+25

-4.6

-4.8

-7.0

13.9

17.5

+50

-4.4

-4.5

-4.5

13.6

13.7

+75

-5.1

-5.2

-3.7

14.6

12.5

18

-4.4

-5.0

-5.3

13.6

15.0

+05

Box Culvert 2x2 1/2 x 30

+25

-3.4

-3.6

-4.7

12.1

14.0

+50

-4.0

-5.0

-5.8

13.0

15.7

Areas		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	178.32		680.6 167.2
			168.4
	185.50		165.8
	172.62		142.0
	134.08		115.8
	115.96		96.5
	92.58		89.7
	101.26		95.7
	105.45		83.7
	75.33		84.0
	106.05		1889.4

10000

Sta Grade

L

C

R

19

-3.50

$$\begin{array}{r} -2.8 \\ 11.2 \end{array}$$

-3.2

$$\begin{array}{r} -3.4 \\ 12.1 \end{array}$$

19+30 575801

$$\begin{array}{r} -2.8 \\ 11.2 \end{array}$$

-2.0

$$\begin{array}{r} -3.0 \\ 11.5 \end{array}$$

20

$$\begin{array}{r} -2.4 \\ 10.6 \end{array}$$

-3.4

$$\begin{array}{r} -3.6 \\ 12.4 \end{array}$$

+25

$$\begin{array}{r} -3.4 \\ 12.1 \end{array}$$

-3.2

$$\begin{array}{r} -3.4 \\ 11.7 \end{array}$$

+50

$$\begin{array}{r} -3.0 \\ 11.5 \end{array}$$

-3.0

$$\begin{array}{r} -2.8 \ 0.0 \\ 7.7 \ 7.7 \end{array}$$

+75

$$\begin{array}{r} -3.0 \\ 11.5 \end{array}$$

-2.4

$$\begin{array}{r} -3.3 \ 0.0 \\ 6.0 \ 6.0 \end{array}$$

21

-2.86

$$\begin{array}{r} -1.6 \\ 9.4 \end{array}$$

-2.0

$$\begin{array}{r} -0.8 \ 0.0 \\ 5.5 \ 5.5 \end{array}$$

+25

$$\begin{array}{r} -0.5 \\ 7.7 \end{array}$$

-0.4

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+50

$$\begin{array}{r} -0.4 \\ 7.6 \end{array}$$

0.0

$$\begin{array}{r} +0.2 \\ 8.1 \end{array}$$

+80

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+1.0

$$\begin{array}{r} +1.6 \ 0.0 \\ 3.5 \ 5.5 \end{array}$$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

	5898		1889.4 152.8
			56.6
	43.00		
			133.6
	6010		
			56.5
	61.88		
			51.8
	50.08		
			42.3
	41.40		
			29.7
	22.70		
			12.8
0.00	4.89		
		0.2	2.9
0.80	14.0		
		6.1	0.5
10.15	0.00	6.3	2428.9

10

1021

Sta. Grade

1922

L

C

R

$\frac{+18}{8.5}$

+2.0

$\frac{+25}{50}$ $\frac{+10}{8.3}$

19

+15

$\frac{+2.6}{8.7}$

+2.6 $\frac{+3.6}{4.0}$ $\frac{0.0}{8.0}$

20

+25

$\frac{+0.4}{8.1}$

0.0

$\frac{-3.4}{9.6}$

+35

$\frac{0.0}{8.0}$

-0.5

$\frac{-4.2}{10.2}$

+50

$\frac{-0.9}{8.3}$

-1.0

$\frac{-2.0}{8.5}$

+75

$\frac{-1.7}{9.5}$

-3.0

$\frac{-5.2}{10.9}$

-2.86

21 23 H.B.

$\frac{-3.3}{12.4}$

$\frac{-3.8}{7.0}$

-3.6

$\frac{-4.0}{7.0}$

$\frac{-5.4}{11.0}$

+0370E

$\frac{-4.0}{3.0}$

$\frac{-3.8}{2.8}$

$\frac{-3.8}{2.8}$

$\frac{-3.8}{2.8}$

$\frac{-5.4}{4.0}$

$\frac{-5.2}{7.0}$

$\frac{-6.8}{10.2}$

$\frac{-6.0}{9.0}$

23+75 Toe

$\frac{-4.6}{6.9}$

$\frac{-4.6}{6.9}$

23+85 H.B.

$\frac{-4.6}{13.9}$

$\frac{-6.8}{7.0}$

-7.0

$\frac{-6.5}{7.0}$

$\frac{-4.6}{13.9}$

Areas. Cob. Yds.
Exc. Emb. Exc. Emb.

32.57

⁶³15.8 Sta 21+25 to 22+35

20.5 Exc 50.7 Cu. L. Rock

4131 0.00

Have 63 So far
" 44.4 N. "

7.9

1.5

160

1190

0.2

5.8 Sta 22+15 1/2 to 23+03

0.00

19.25

50.7

Emb. 113.5 Cu.

105.488 made from

18.55

Cut so. balance

339 borrow from

54.75

mill yard on Reg Creek

58.1 Class borrow

70.76

Earth 64.7 Cu.

3.7

1 Haul 64.7 - 300' = 220

113.5

22.8

141.44

Ward

Sta. Grade

19 24

+25

19

+35

20

+75

25

+30

+50

21 25+85

26+10

+50

27

L

C

R

$\frac{-6.2}{16.3}$

-70

$\frac{-7.0}{17.5}$

Box Culvert 1 x 2 1/2 x 26

$\frac{-5.7}{15.6}$

-62

$\frac{-6.0}{16.0}$

$\frac{-8.0}{19.0}$

-80

$\frac{-8.0}{19.0}$

$\frac{-7.2}{17.8}$

-66

$\frac{-6.0}{16.0}$

$\frac{-2.6}{10.6}$

-06

$\frac{0.0}{8.0}$

$\frac{-2.0}{9.8}$

-0.6 $\frac{0.0}{4.0}$ $\frac{+2.6}{8.7}$

$\frac{0.0}{8.0}$

+32

$\frac{+6.8}{9.7}$

$\frac{+4.4}{9.1}$

+58

$\frac{+8.0}{10.0}$

Boulders 3x4x5

$\frac{0.0}{8.0}$

+24

$\frac{+6.0}{9.5}$

$\frac{-0.7}{8.0}$ $\frac{0.0}{2.0}$

+0.5

$\frac{+2.0}{8.5}$

-29.6

Areas.
Exc. Emb. Exc. Emb.

	164.50		²²⁸ 85.0 Sta 23+75 to 25+85
			196.5 Emb 840.5 @ 4.
	138.60		420.5 made from
			256.7 Cut & Channel &
	208.00		swell on bottom road
			169.3 balance 420.0 from
	157.74		Pit 25+30 to 27+35
			95.8 Class S.R. 420.0 @
0.00	14.68		Hand 496.
		1.3	9.6
5.20	11.14		
		39.4	4.8
55.52	0.00		840.5
			74.3 Sta 25+30 to 27+40 Exc 370.9 S.R.
104.99			Hand 60 yds So far
		2.2	
		111.1	" 65 " N "
45.00	0.00		" 160-26+20 to 27+80 = 256
		51.5	1.1
10.62	1.75	279.8	was

Sta Grade

19 27+40

L

C

R

$$\begin{array}{r} -5.4 \\ 14.6 \end{array}$$

-1.5

$$\begin{array}{r} 2.0 \\ 8.0 \end{array}$$

19 +70

$$\begin{array}{r} -8.3 \\ 17.3 \end{array}$$

-5.6

$$\begin{array}{r} -3.6 \\ 12.0 \end{array}$$

20 28

$$\begin{array}{r} -9.2 \\ 18.2 \end{array}$$

-7.8

$$\begin{array}{r} -5.2 \\ 14.2 \end{array}$$

+25

$$\begin{array}{r} -9.2 \\ 18.2 \end{array}$$

-7.8

$$\begin{array}{r} -4.6 \\ 13.3 \end{array}$$

Ledge 8' x 11' x 11'
Boulders 3' x 3' x 3' = 36.8 c.y.

+55

$$\begin{array}{r} -11.4 \\ 20.4 \end{array}$$

-6.4

$$\begin{array}{r} -1.4 \\ 9.0 \end{array}$$

+70

$$\begin{array}{r} -11.0 \\ 20.0 \end{array}$$

-8.4

$$\begin{array}{r} -4.6 \\ 13.3 \end{array}$$

21 29

$$\begin{array}{r} -10.4 \\ 19.4 \end{array} \begin{array}{r} -11.2 \\ 13.0 \end{array}$$

-7.0

$$\begin{array}{r} -2.3 \\ 10.2 \end{array}$$

+35

$$\begin{array}{r} -10.0 \\ 19.0 \end{array} \begin{array}{r} -11.0 \\ 8.0 \end{array}$$

-5.6

$$\begin{array}{r} -1.2 \\ 8.7 \end{array}$$

29+75

$$\begin{array}{r} -11.1 \\ 20.1 \end{array}$$

-5.0

$$\begin{array}{r} 2.0 \\ 8.0 \end{array}$$

30+10

$$\begin{array}{r} -12.0 \\ 23.5 \end{array} \begin{array}{r} 2.0 \\ 5.0 \end{array}$$

+2.1

$$\begin{array}{r} +6.0 \\ 9.5 \end{array}$$

-2.96

1:1 Slope

Relb. 9.0 on L

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
0.00	35.78	279.8 52 285.0 85.9	1.1 27.8
		50.	93.2

131.99

370.9

Sta 28+30

176.6 Exc 36.8 Cy. S.R.

185.96

Haul alongside pier

169.6

180.35

36.8

36.8

183.7 Sta 26+50 to 30+60

150.28

Emb 1491.4 Cy.

98.8 1397.0 made

205.46

from Cuts, Channel

212.5+swell on borrow

177.09

balance 94.4 from

218.8 Pit 25+30 to 27 (See P. 35)

160.46

Class borrow

207.9 Solid Rock 94.4

0.00

120.20

Slip

1.5
17.0

85.7

Haul 26 ft.

39.23

12.00

18.5

1475.7

Sta. Grade

1 30+30

$\begin{array}{r} -12.2 \\ 23.8 \end{array}$ $\begin{array}{r} 0.0 \\ 4.5 \end{array}$ +2.0

$\begin{array}{r} +1.0 \\ 9.8 \end{array}$

19 +60

-29.6

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+4.8

$\begin{array}{r} +12.5 \\ 11.1 \end{array}$

20 30+90

$\begin{array}{r} +5.4 \\ 9.4 \end{array}$

+10.7

$\begin{array}{r} +17.6 \\ 12.4 \end{array}$

31+00 5723.84

31+10

$\begin{array}{r} +8.2 \\ 10.1 \end{array}$

+12.6

$\begin{array}{r} +19.8 \\ 13.0 \end{array}$

Boulders $\begin{array}{c} 5 \times 4 \times 4 \\ 3 \times 3 \times 6 \end{array} = 5.0 \text{ c.y.}$

+30

$\begin{array}{r} +7.0 \\ 9.8 \end{array}$

+11.4

$\begin{array}{r} +17.3 \\ 12.3 \end{array}$

+50

$\begin{array}{r} +2.5 \\ 8.6 \end{array}$

+6.8

$\begin{array}{r} +12.1 \\ 11.0 \end{array}$

2 +75

-3.09

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+3.3

$\begin{array}{r} +7.1 \\ 9.8 \end{array}$

32

$\begin{array}{r} -2.8 \\ 11.0 \end{array}$ $\begin{array}{r} 0.0 \\ 3.0 \end{array}$

+1.0

$\begin{array}{r} +4.0 \\ 9.0 \end{array}$

+50

$\begin{array}{r} -5.6 \\ 14.7 \end{array}$

-2.0

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+75

$\begin{array}{r} -8.8 \\ 19.1 \end{array}$

-3.3

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

42.30 15.25^{s.} 30.2^{18.5} 1475.7^{10.1}

76.7^{3.6} 5.6

95.84 0.00 1491.4

169.1 Sta 29+75 to 32+50 E.C. 1072.30 y.

208.63 Class material in sections

172.7 Loose Rock 40.0 @ y. (measured)

257.53 s. 1.9 Slaps Lo " 35.0 "

178.0 Total Lo Rock 75.0 cu.

223.17 Balance Cut S.R. 997.3 "

129.0 Haul 127.8 to free

125.04 " 70. N "

84.6 640.31 + 5% 29 = 1312

57.77 0.00 " 110 - 31 + 5% 32 + 90 = 148

36.9 1.7 Total 1460

22.00 5.60 s. 1.0

13.6 44.4 Sta 31+75 to 33+72

0.00 42.30 947.8 Emb 388.3 @ y.

124.5 54. 1072.3

54.5 made from cuts

0.00 75.52 100.6

Sta.	Grade	L	C	R
33		$\frac{-10.2}{21.0}$	-2.2	$\frac{0.0}{40} \frac{+2.6}{8.7}$

1	+05	$\frac{-10.2}{21.0}$	$\frac{-5.4}{30}$	$\frac{+14.0}{0.0} \frac{+13.0}{0.0}$
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Boulder $3 \times 4 \times 9 = 4.0 \text{ c.f.}$

2	+20	$\frac{-7.8}{17.7}$	0.0	$\frac{+13.0}{0.0} \frac{+14.2}{11.6}$
---	-----	---------------------	-------	--

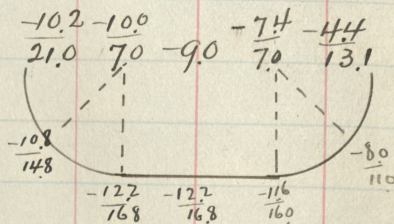
	+25	$\frac{-7.8}{17.7}$	0.0	$\frac{+15.6}{2.0} \frac{+13.5}{11.4}$
--	-----	---------------------	-------	--

Boulder $4 \times 4 \times 8 = 4.7 \text{ c.f.}$

	+40	$\frac{-9.0}{19.4}$	-3.0	$\frac{0.0}{8.0}$
--	-----	---------------------	--------	-------------------

33+55 H.B.

2 +72 Toe



34+40 H.B.

+60

$\frac{0.0}{8.0}$	0.0	$\frac{0.0}{8.0}$
$\frac{+15.2}{11.8}$	$+12.0$	$\frac{+8.2}{10.1}$

+70

$\frac{+24.6}{14.2}$	$+16.0$	$\frac{+14.2}{11.6}$
----------------------	---------	----------------------

Areas. Cob. yds.
Exc. Emb. Exc. Emb.

5.20 6320 1.6 64.2 Sta 324 N 33+40

12.6 13.0 bar 155.3 Q.Y.

13110 7710

Solid Rock.

4.0

73.1

29.0 Haul on side @

132.20 27.30

N. for

24.2

5.1

129.42 27.30

4.7

24.0

27.7

0.00

72.60

144.2

11.150.

155.3

80.3

216.47

68.4

388.3

0.00

0.00

83.3

225.00

108.6

361.60

191.9

1000

Sta. Grade

L

C

R

34+90

$$\begin{array}{r} +82.5 \\ 28.6 \end{array} \quad \begin{array}{r} +119.4 \\ 8.0 \end{array} \quad +49.4 \quad \begin{array}{r} +48.0 \\ 10.0 \end{array} \quad \begin{array}{r} +39.0 \\ 17.8 \end{array}$$

35

$$\begin{array}{r} +86.0 \\ 29.5 \end{array} \quad \begin{array}{r} +84.2 \\ 26.0 \end{array} \quad \begin{array}{r} +67.0 \\ 20.0 \end{array} \quad +51.0 \quad \begin{array}{r} +44.0 \\ 19.0 \end{array}$$

2

+10

$$\begin{array}{r} +87.7 \\ 29.9 \end{array} \quad \begin{array}{r} +80.0 \\ 20.0 \end{array} \quad \begin{array}{r} +59.5 \\ 16.0 \end{array} \quad +54.0 \quad \begin{array}{r} +49.2 \\ 14.0 \end{array} \quad \begin{array}{r} +24.0 \\ 14.0 \end{array}$$

+30

$$\begin{array}{r} +70.4 \\ 25.6 \end{array} \quad \begin{array}{r} +70.2 \\ 11.0 \end{array} \quad \begin{array}{r} +52.6 \\ 7.0 \end{array} \quad +48.3 \quad \begin{array}{r} +30.5 \\ 15.6 \end{array}$$

+50

$$\begin{array}{r} +58.5 \\ 22.6 \end{array} \quad \begin{array}{r} +57.0 \\ 10.0 \end{array} \quad +59.2 \quad \begin{array}{r} +59.0 \\ 3.0 \end{array} \quad \begin{array}{r} +36.8 \\ 17.2 \end{array}$$

+65

$$\begin{array}{r} +50.0 \\ 20.5 \end{array} \quad \begin{array}{r} +48.4 \\ 10.0 \end{array} \quad +53.2 \quad \begin{array}{r} +50.4 \\ 14.0 \end{array} \quad \begin{array}{r} +44.2 \\ 19.1 \end{array}$$

2

+85

$$\begin{array}{r} +40.4 \\ 18.1 \end{array} \quad +39.0 \quad \begin{array}{r} +37.0 \\ 17.3 \end{array}$$

36

5708.39

$$\begin{array}{r} +39.0 \\ 17.8 \end{array} \quad \begin{array}{r} 30.2 \\ 14.0 \end{array} \quad +26.5 \quad \begin{array}{r} +26.5 \\ 14.6 \end{array}$$

Boulder 3x3x6 = 2.0 c.y.

+15

$$\begin{array}{r} +28.8 \\ 15.2 \end{array} \quad +22.0 \quad \begin{array}{r} +16.4 \\ 12.1 \end{array}$$

Boulder 5x6x8 = 9.0 c.y.

+35

$$\begin{array}{r} +20.0 \\ 13.0 \end{array} \quad +15.1 \quad \begin{array}{r} +9.7 \\ 10.4 \end{array}$$

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.
1539.22		191.9	704.0
		593.8	
1667.45		624.9	
1707.20		1189.5	
1504.35		1138.6	
1569.80		834.2	
1433.22		901.2	
999.90		457.8	
648.17		2.0	
		313.7	
481.10		9.0	
		287.6	
295.47		7248.2	

Sta. Grade

L

C

R

36+50

$$\begin{array}{r} +27.8 +27.9 +15.6 \\ 15.0 \quad 12.0 \quad 10.0 +10.6 \end{array}$$

$$\begin{array}{r} +5.5 \\ 9.4 \end{array}$$

+65

$$\begin{array}{r} +21.4 \\ 13.4 \end{array}$$

+16.0

$$\begin{array}{r} +6.3 \\ 9.6 \end{array}$$

+75

$$\begin{array}{r} +16.7 \\ 12.2 \end{array}$$

+13.3

$$\begin{array}{r} +11.6 \\ 10.9 \end{array}$$

+80

$$\begin{array}{r} +16.0 \\ 12.0 \end{array}$$

+10.2

$$\begin{array}{r} +15.0 \\ 9.3 \end{array}$$

+95

$$\begin{array}{r} +9.0 \\ 10.3 \end{array}$$

+5.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

37

$$\begin{array}{r} +8.4 \\ 10.1 \end{array}$$
+2.6 $\frac{0.0}{3.0}$

$$\begin{array}{r} -6.2 \\ 15.6 \end{array}$$

+10

$$\begin{array}{r} +11.8 \\ 11.0 \end{array}$$
+3.6 $\frac{0.0}{5.0}$

$$\begin{array}{r} -11.0 \\ 22.1 \end{array}$$

+40

$$\begin{array}{r} +7.2 \\ 9.8 \end{array}$$
+1.4 $\frac{0.0}{4.0}$

$$\begin{array}{r} +14.3 \\ 26.7 \end{array}$$

+80

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

-8.0

$$\begin{array}{r} -14.3 \\ 6.7 \end{array}$$

+90

$$\begin{array}{r} +14.0 \\ 9.0 \end{array}$$

$$\begin{array}{r} +2.5 \frac{0.0}{1.0} \frac{-11.2}{7.0} \frac{-35.6}{50.0} \frac{51.0}{77.1} \end{array}$$

-35.0

Arctic. C. b. Yds.
Exc. Emb. Exc. Emb.

232.57

7248.2

145.8 Sta 3440 to 3840 Exp 8/57.8 Cy

146.5 Class Solid Rock 8/57.8 Cy

294.80

Haul 2897 n free

104.0 " 660-36+60 to 38+05 = 957

266.82

" 3480-3565 to 4435 = 30276.

42.5 waste 3535. Total Haul 31233.

192.63

76.2

81.75 0.00

12.3 0.8

56.63 12.40

Sta 36+95 to 38+50

23.4 4.3 Emb. 1233.9 Cy.

76.00 11.60

made from cut 5.

97.9 18.0

100.20 21.45

49.5 351.1

6.00 452.60

3.5 162.6

28.50 425.68 7949.8 536.8

Sta. Grade

L

C

R

38

$\frac{+4.0}{9.0}$

$\frac{0.0}{0.0} \frac{-1.50}{4.0} \frac{-39.4}{13.0} \frac{-65.7}{53.0} \frac{-97.3}{97.3}$

+20

$\frac{+0.8}{8.2} \frac{0.0}{5.0}$

-3.6

$\frac{-40.5}{62.7}$

+40

$\frac{0.0}{8.0}$

-6.0

$\frac{-30.2}{48.5}$

+50

$\frac{+8.6}{10.2}$

+6.6

$\frac{0.0}{5.0} \frac{0.0}{8.0}$

+65

$\frac{+21.4}{13.4} \frac{+16.0}{9.0}$

+12.4

$\frac{+7.0}{3.0} \frac{+4.0}{9.0}$

+70

$\frac{+22.2}{13.6} \frac{+17.4}{9.0}$

+14.0

$\frac{+11.8}{8.0} \frac{+4.5}{9.1}$

Boulder 3x3x3 = 1.0 c.y.

+80

$\frac{+22.1}{13.5}$

+12.4

$\frac{+5.0}{9.3}$

39

$\frac{+23.2}{13.8}$

+11.6

$\frac{+5.6}{9.4}$

39+12 5697.47

+30

$\frac{+25.4}{14.4}$

+11.6

$\frac{+4.6}{9.2}$

+40

$\frac{+23.4}{13.9}$

+12.2

$\frac{+4.8}{9.2}$

-3.50

-3.23

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
1600	517.11	82	174.6
		64	289.1

120	263.61	0.3	199.5
600	275.20	7964.7	
		193.154	
		8157.8	

84.56	600	10.4	339
		1.4	1233.9

82.5 Sta 38+40 to 40 Exc 1447.1 cu.

21240	S.	8.9	Class mat in sections from
		45.63	9 to 40 - 25% Lo. Rock 157.6 cu

27991	S	136	Class Slips " " 309.7"
		1.0	
		98.1	Balance Cut S.R.

249.76	S.	17.1	Total Loose Rock 467.3 cu
		185.0	" Solid " 979.8"

249.76	S	59.1	Have 232.8 N. fr
		281.5	" 1130 - 49 + 10 to 43 + 80 = 598.9

256.88	S.	44.5	
		94.6	

253.71		957.4	
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WWD

Sta.	Grade	L	C	R
39+70		$\frac{+13.0}{11.3}$	+6.2	$\frac{0.0}{8.0}$
+80	-32.3	$\frac{+10.6}{10.7}$	+3.6 $\frac{0.0}{5.0}$	$\frac{-8.6}{18.8}$
39+82	5695.21	$\frac{0.0}{8.0}$	-3.4	$\frac{-30.0}{48.3}$
40				
+05		$\frac{-1.2}{8.7}$	-6.0	$\frac{-32.0}{51.0}$
+15		Box Culvert + 2x2½ x 25		
+20		$\frac{0.0}{8.0}$	-4.0	$\frac{-25.0}{41.4}$
+40	-30.2	$\frac{+9.9}{10.5}$	+6.6	$\frac{0.0}{8.0}$
+55		$\frac{+14.4}{11.6}$	+9.0	$\frac{+4.9}{9.2}$
+75		$\frac{+18.0}{12.5}$	+12.0	$\frac{+10.0}{10.5}$
41		$\frac{+22.8}{13.7}$	+16.4	$\frac{+9.6}{10.4}$
+10		$\frac{+24.4}{14.1}$	+18.4	$\frac{+14.0}{11.5}$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

111.83 . 0.00 ^{5.} 203.1
33.8 1.0

70.76 8.60

⁵ 14.0
17.5

Sta 39+70 to 40+40
77.5 Emb 30 d. r. C. Y.

0.00

200.71

1362.8
84.3 5.4.

made from Cut So.

1447.1

459

295.30

133.8

0.00

186.30

249

46.0

304.2

100.65

0.00

Slip

3.9
75.4

170.80

⁵

9.6
155.8

250.00

^{5.}

29.1
267.2

327.22

^{5.}

10.6
132.7

389.12

709.4

W. A. S.

Sta.	Grade	L	C	R	
39	41+30	$\frac{+26.0}{14.5}$	+18.8	$\frac{+12.6}{11.2}$	
	+50	$\frac{+21.0}{13.3}$	+14.2	$\frac{+7.6}{9.9}$	
39+		Boulders $\begin{matrix} 9 \times 9 \times 15 \\ 6 \times 8 \times 10 \end{matrix}$			= 12.8 cy.
40	+75	$\frac{+28.5}{14.4}$	+17.2	$\frac{+12.0}{11.0}$	
		-3.02			
42		$\frac{+17.2}{12.3}$	+9.6	$\frac{+5.0}{9.3}$	
	+25	$\frac{+11.4}{10.9}$	+5.4	$\frac{+1.4}{8.4}$	
	+50	$\frac{+9.5}{10.4}$	+4.0	$\frac{0.0}{8.0}$	
42+54.9	56.86.97	Boulders $\begin{matrix} 3 \times 6 \times 6 \\ 6 \times 9 \times 9 \end{matrix}$			= 22.0 cy.
	+70	$\frac{+7.4}{9.9}$	0.0	$\frac{-14.4}{26.8}$	
		-3.23			
	+80	$\frac{+22.2}{13.6}$	$\frac{+20.0}{8.0}$	$\frac{0.0-4.0}{10.2}$	$\frac{-2.0}{35.6}$
	+85	$\frac{0.0}{8.0}$	0.0	$\frac{-11.6}{1.0}$	$\frac{-2.70}{44.2}$
43		$\frac{-5.6}{14.7}$	-19.0	$\frac{-34.8}{54.9}$	

Areas		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.
395.98		S. 709.2 290.8	Start 20 to 42 + 85 to 2671.124.
		S. 46.2 250.0	Class Slip Lo. Rock 382.0
279.12		S. 53.8 62.8	Balance Solid " 2289.10
		299.8	Haul 47. N. fr.
368.44		S. 41.5	" 2080-4430 to 43+35=4264.
		259.7	
192.48		S. 16.8 136.9	
103.31		S. 17.6 82.5	
74.80	0.00	S. 53.5 22.0 38.7	124
29.60	50.40	S. 51.9 35.7	Start 42 + 50 to 43. 31.8 Emb 4033 @.4.
163.00	121.20	S. 10.4 10.1	Made from cut 80. 42.5
0.00	337.36	2527.0 144.150. 2671.1	316.6 403.3
	802.60		

North Leg Wye "N" Line

Sta Sta. Grade L C R

39 L10+352
= Sta 0. 5787.46

+320

1 5790.66 Quantities Sta 0 to Sta 1+35

39+ included in L Line Notes Sta 0 to Sta 10+35

40 +35 $\frac{-1.0}{7.5}$ -1.0 $\frac{0.0}{8.0}$

+50 $\frac{-0.7}{8.0}$ -1.0 $\frac{0.0}{8.0}$

+65 $\frac{-0.5}{7.7}$ -0.7 $\frac{0.0}{4.0}$ $\frac{+2.0}{8.5}$

1 +85 $\frac{0.0}{8.0}$ $\frac{0.0}{3.0}$ +1.2 $\frac{+3.0}{8.8}$

2 +10 $\frac{-2.0}{10.0}$ -1.2 $\frac{0.0}{8.0}$

+25 $\frac{-3.0}{11.5}$ -2.2 $\frac{-1.2}{8.8}$

+50 $\frac{-2.0}{10.0}$ -0.4 $\frac{0.0}{8.0}$

Boulder 3x3x6 = 2.0 cy.

2 +55 $\frac{0.0}{8.0}$ +1.4 $\frac{+2.0}{8.5}$



Areas. Cub. fds.
Exc. Emb. Exc. Emb.

				Sta 1435 1/2 to 455
	11.25			Emb 55.2 c.y.
				6.0330 made from
0.00	10.45			Cut balance from
		0.7		4.5 Pit in R 2410 see p. 34
4.00	5.84			Class borrow
		8.5		1.4 Earth 22.2 c.y.
19.08	0.00			
		5.9	5.5	
		15.1		
0.00	17.80	11.8	5.5	
		26.9		
				15.2 Sta 1450 1/2 to 410
	37.03			Exp 26.9 c.y. S. R.
				22.0 Haul along side for
0.00	10.60			
		2.0		
		1.2	0.6	
19.55	0.00	3.2	55.2	

North Leg Wye "N" Line

Sta	Sta	Grade	L	C	R
39	2+65		$\frac{+4.0}{9.0}$	+3.8	$\frac{+3.4}{8.9}$
	+80		$\frac{0.0}{8.0}$	+1.6	$\frac{+2.6}{8.7}$
39					
46	2+95		$\frac{-2.8}{11.2}$	-1.2	$\frac{0.0}{8.0}$
	3+20		$\frac{-1.4}{13.6}$	-1.4	$\frac{0.0}{8.0}$
	+25		$\frac{0.0}{8.0}$	+1.6	$\frac{+2.8}{8.7}$
	+35	+5.0	$\frac{-2.0}{10.0}$	$\frac{0.0}{3.0}$ +2.2	$\frac{+5.8}{9.5}$
	+45		$\frac{-2.8}{11.2}$	0.0	$\frac{+2.4}{8.6}$
	+70		$\frac{-1.0}{13.0}$	$\frac{-4.8}{7.0}$ -3.6	$\frac{0.0}{8.0}$
4			$\frac{-3.8}{12.7}$	$\frac{-3.2}{5.0}$ -4.3	$\frac{-2.4}{10.6}$
	+25		$\frac{-5.2}{14.8}$	$\frac{-2.8}{4.0}$ -2.7	$\frac{-3.6}{4.0}$ -2.8

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
63.61		15.4 ^{3.2} Sta 2450 to 2495	Exc 680 Ch. S.R.
		24.3	Haul 10. N for " 37.3 50.
23.76	0.00		
		4.4	3.9
0.00	21.32	47.3 20.7 54. 68.0	24.0
0.00	30.52		
		1.5	1.9
24.56	0.00		
		11.4	0.5 Sta 3420 to 3470
36.94	4.00		Exc. 38.2 Ch. S.R.
		8.6	2.5 Haul four to fill
9.60	9.80		opposite
		3.0	31.5
0.00	58.20	24.5 13.7 54. 38.2	69.0
	66.06		
			60.1
63.68		193.4	

North Leg Wye "N" Line

Sta.	Grade	L	C	R
39	4+50	$\frac{-4.0}{13.0}$	-4.0	$\frac{-2.4}{10.6}$
	+75	$\frac{-2.0}{10.0}$	$\frac{-4.0}{6.0}$ -4.0	$\frac{-2.2}{10.3}$
39				
4	4+90 back	$\frac{-3.4}{7.0}$	-4.0	$\frac{-2.2}{10.3}$
	4+90 ahead	$\frac{-2.4}{38.6}$ $\frac{-0.8}{28.0}$ $\frac{0.0}{21.0}$ $\frac{0.0}{14.0}$ $\frac{-3.4}{7.0}$ -4.0		$\frac{-2.2}{10.3}$
		Boulders. $3 \times 3 \times 9$ $3 \times 3 \times 6 = 5.0$ c.y.		
5	+25	" 24° on L $\frac{0.0}{24.0}$ $\frac{0.0}{16.0}$ $\frac{-2.8}{6.0}$ -3.0		$\frac{-3.0}{11.5}$
5	+50	" 18° on L $\frac{-0.7}{19.0}$ $\frac{-2.0}{8.0}$ -1.6		$\frac{-2.2}{10.3}$
	+75	" 136° on L $\frac{-1.5}{15.8}$	-3.3	$\frac{-1.6}{9.4}$
5	+90	" 118° on L $\frac{-3.0}{16.3}$	-1.8	$\frac{0.0}{8.0}$
6	+10	" 10° on L $\frac{-3.2}{14.8}$ $\frac{0.0}{3.0}$ +1.3		$\frac{+2.4}{8.6}$
6	+50	" 84° on L $\frac{0.0}{8.4}$	+1.2	$\frac{+2.2}{8.6}$

includes "B" Line Sta 5+20 to 6+20.7 End.
 and "D" Line Sta 6+40 to 8+35.8 End.
 15.0

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	69.60	193.4	61.7
		60.6 Sta 2480 to 6+50	
	61.30	Emb 585.6 Cy.	
		32.1 550.3 made from	
	54.20	Cuts & fills	
		balance borrowed	
	81.54	from Pit on R	
		5.0 91.2 Sta 3, See P. 34.	
	59.15	Class borrow	
		48.1 <u>Earth 35.3 Cy.</u>	
	114.84		
		47.3	
	57.38		
		26.9	
0.00	39.57		
		4.2 18.8	
17.14	11.20		
		Slip 7.2	
		26.8	5.5
		43.4 585.6	
19.00	0.00		

Wad

North Leg Wye "N" Line

Sta.	Grade	L	C	R
30	7	$\frac{+20}{85}$	+2.6	$\frac{+14.4}{9.1}$
	+25	$\frac{+10}{83}$	+2.7	$\frac{+5.0}{9.3}$
30				
40	+50	$\frac{+24}{86}$	+5.6	$\frac{+6.3}{9.6}$
	+60	$\frac{00}{80}$	+3.4	$\frac{+6.0}{9.5}$
		Boulder 3x3x6 = 2.0 C.Y.		
	+75	$\frac{-12}{82}$	$\frac{00}{20}$ +1.3	$\frac{+4.8}{9.2}$
		↑		
8		$\frac{-4.2}{11.2}$	-1.2 $\frac{00}{3.0}$	$\frac{+3.8}{9.0}$
	+10	$\frac{-4.5}{11.5}$	$\frac{-4.2}{5.0}$ -1.0 $\frac{00}{2.0}$	$\frac{+5.8}{9.5}$
	+25	$\frac{-5.0}{12.0}$	$\frac{-4.8}{5.0}$ -3.2 $\frac{00}{4.0}$	$\frac{+2.0}{8.5}$
	+35	$\frac{-4.2}{11.2}$	$\frac{-5.2}{5.0}$ -1.6 $\frac{00}{6.0}$	$\frac{+1.4}{8.4}$
	+50	$\frac{-3.6}{10.6}$	-3.8	$\frac{00}{8.0}$

+5.00

1:1 Slope on "L"

Areas.		Cot. yds.	
Exc.	Emb.	Exc.	Emb.
4848		5. ^{43.2} 62.5	
		5. 44.5	
47.76		5 9.8 61.8	
85.76		5. 3.4 25.8	
53.75	0.00	5 3.8 2.0 22.3	0.5
26.48	3.00	5. 12.2 16.6	12.1
9.50	23.22	6.5 5.0	10.2
17.40	32.15	5. 9.9 5.9	22.3
4.00	48.20	5. 3.8 1.0	16.7
1.40	42.12	5. 4.8 0.2	25.0
0.00	47.94	356.3	86.8

Wend

North Lehigh "N" Line

Sta.	Grade	L	C	R
3	8+75	$\frac{-4.4}{11.4}$	$-3.4 \frac{00}{40}$	$\frac{+3.2}{8.8}$
	+90	$\frac{-3.2}{10.2}$	$\frac{-3.8}{40} \frac{-0.4}{30} 6.0$	$\frac{+6.2}{9.6}$
3		Boulder 3x3x6 = 2.0 c.y.		
1	9	$\frac{-4.0}{11.0}$	$\frac{-3.0}{7.0} \frac{00}{40} +3.0$	$\frac{+5.4}{9.3}$
	+10	$\frac{-4.2}{11.2}$	$\frac{00}{6.0} +2.0$	$\frac{+4.8}{9.2}$
	+25		$\frac{00}{8.0} +2.8$	$\frac{+6.0}{9.5}$
	+50	$\frac{+0.8}{8.2}$	$+2.2$	$\frac{+4.2}{9.1}$
	+65	$\frac{+0.8}{8.2}$	$+3.0$	$\frac{+4.4}{9.1}$
	+85 End Tail	$\frac{+2.0}{8.6}$	$+3.0$	$\frac{+5.4}{9.6}$

10

5835.66

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.
6.40	41.58 ^{s.}	356.3 7.7 2.0	86.8 41.4
	s.	6.1 8.7	Sta 7+60 to 9+25 16.9 Emb 153.5 cu.
24.80	19.28 _s	3.7 2.0 12.3	made from cut. 5.5
41.55	10.50 ^{s.}	5.2 14.1	2.3
34.40	2.10 ^{s.}	6.4 23.0	0.6
48.50	0.00 ^{s.}		153.5
		8.3	Sta 5+90 to 6+85 Exc 75.5 cu.
39.03		7.8	Class Slip. Lo Rock 138.3 cu.
		23.8	Balance S. Rock 613.21
46.75		20.4	Haul 52.6 N fur
		38.3	" 121. opposite fur
56.75		586.6 164.9 751.5	" 320-7+40 to 6+45 = 848 " 61-9+65 to 4+95 "B" = 305 " 32-9+80 to 6+25 "D" = 162 Total Haul 1315

1020

South Leg Wye "B" Line

Sta.	Grade
1	100.00
2	100.00
3	100.00
4	100.00
5	100.00
6	100.00
7	100.00
8	100.00
9	100.00
10	100.00
11	100.00
12	100.00
13	100.00
14	100.00
15	100.00
16	100.00
17	100.00
18	100.00
19	100.00
20	100.00
21	100.00
22	100.00
23	100.00
24	100.00
25	100.00
26	100.00
27	100.00
28	100.00
29	100.00
30	100.00
31	100.00
32	100.00
33	100.00
34	100.00
35	100.00
36	100.00
37	100.00
38	100.00
39	100.00
40	100.00
41	100.00
42	100.00
43	100.00
44	100.00
45	100.00
46	100.00
47	100.00
48	100.00
49	100.00
50	100.00
51	100.00
52	100.00
53	100.00
54	100.00
55	100.00
56	100.00
57	100.00
58	100.00
59	100.00
60	100.00
61	100.00
62	100.00
63	100.00
64	100.00
65	100.00
66	100.00
67	100.00
68	100.00
69	100.00
70	100.00
71	100.00
72	100.00
73	100.00
74	100.00
75	100.00
76	100.00
77	100.00
78	100.00
79	100.00
80	100.00
81	100.00
82	100.00
83	100.00
84	100.00
85	100.00
86	100.00
87	100.00
88	100.00
89	100.00
90	100.00
91	100.00
92	100.00
93	100.00
94	100.00
95	100.00
96	100.00
97	100.00
98	100.00
99	100.00
100	100.00

"L" 3+470

$$= 5809.67$$

Quantities Sta 0+0 to Sta 1+05
included in "L" Line Notes Sta 3+45 to Sta 4+50

1405

010

$$\begin{array}{r} -1.0 \\ \hline 95 \end{array}$$

-1.5

$$\begin{array}{r} -2.0 \\ \hline 7.0 \end{array} \quad \begin{array}{r} 0.0 \\ \hline 7.0 \end{array}$$

1 + 20

5805.95

430

$$\begin{array}{r} 10.0 \\ - 1.6 \\ \hline 8.4 \end{array}$$

-22

$$\begin{array}{r} -3.2 \\ 9.0 \end{array} \quad \begin{array}{r} -2.2 \\ 10.3 \end{array}$$

450

$$\begin{array}{r} -2.7 \\ \hline 6.0 \end{array}$$
$$-3.4$$
$$\begin{array}{r} -4.6 \\ \hline 13.9 \end{array}$$

780

$$\frac{60}{60}$$

ص

8.0

+85

$$\begin{array}{r} +2.0 \\ \hline 90 \end{array}$$

+20

$$\begin{array}{r} 412 \\ 80 \end{array}$$

Boulder $5 \times 5 \times 10 = 9.3$ c.y.

$$\begin{array}{r} +72 \\ \hline 90 \end{array}$$

+66

$$\begin{array}{r} 14.0 \\ \underline{90} \end{array}$$

Boolders

 $2 \times 10 \times 10$
$$= 10.7 \text{ c.y.}$$

410

$$\begin{array}{r} +3.8 \\ \hline 40 \end{array}$$

450

$$\begin{array}{r} 484 \\ \hline 101 \end{array}$$

+15

$$\begin{array}{r} +3.0 \\ \underline{40} \end{array}$$

4.3.3

$$\begin{array}{r} +3.6 \\ \hline 89 \end{array}$$

450

$$\begin{array}{r} 11.2 \\ \hline 90 \end{array}$$

744

$$\begin{array}{r} 73.6 \\ \hline 109 \end{array}$$

Areas. Cob. yds.
Exc. Emb. Exc. Emb.

4+50

Sta 1405 1/2 1480

22.12

Emb. 99.4 @ .11.

28.8 made from cuts.

40.12

36.4

58.03

322

6.00

6.00

97.4

2.6 Sta 1480 to 1490 Exc 514.8 @ .11.

28.10

slip

2.1 Class Slips To Rock 29.7 @ .11.

9.3

36.9 Balance Solid " 485.1 "

104.80

3.

6.0 Haul 78 back from

10.7

37.1 " 41.9 ahead "

95.45

" 212-2+35 1/2 4+50 Line = 498

5.

2.7

13.9 " 90-2+90 1/2 4+30 = 126.

544.3

Total 624

5.

9.4

85.6

77.68

5.

6.2

75.7

298.2

Wor

South Leg Wye "B" Line

Sta.	Grade	L	C	R
2+75		$\frac{+4.8}{9.0}$	+4.6	$\frac{+4.2}{11.1}$
		Boulders $\frac{3 \times 3 \times 6}{2 \times 3 \times 6} = 3.3 \text{ C.Y.}$		
3		$\frac{+2.4}{9.0}$	+3.6	$\frac{+6.3}{11.6}$
15	0.00	$\frac{0.0}{6.0}$	0.0	$\frac{0.0}{10.0}$
+30		$\frac{+2.0}{9.0}$	$\frac{0.0}{1.0} - 0.6$	$\frac{-2.2}{13.3}$
+40		$\frac{0.0}{6.0}$	-2.0	$\frac{-3.0}{14.5}$
3+50	5805.95	$\frac{+2.0}{9.0}$	$\frac{0.0}{4.0} - 1.8$	$\frac{-4.4}{16.6}$
+65		$\frac{+4.6}{9.0}$	+1.2 $\frac{0.0}{2.0}$	$\frac{-1.4}{12.1}$
+85	+2.10	$\frac{+1.4}{9.0}$	0.0	$\frac{-1.6}{12.4}$
4		$\frac{0.0}{6.0}$	-1.4	$\frac{-2.2}{13.3}$
+15		$\frac{-1.8}{6.0}$	-2.6	$\frac{-6.6}{18.9} \text{ Rdb. 9.0}$

100 Rdb. on R.

6.0 Rdb. on "L"

v

Areas.		Cob. Yds.	
Exc.	Emb.	Exc.	Emb.

85.83

5.

298.2

3.3

3.3

75.1

76.38

Q29.7

21.2

0.00

0.0

1.4

4.2

5.00

15.29

Sta 3+15 to 4+47

0.6

9.4 Emb. 165.0 @ 11.

0.00

35.50

made from Cutbag

0.2

14.1

2.00

40.54

7.2

12.8

24.30

5.60

10.6

5.0

4.20

8.00

0.8

9.0

0.00

24.51

421.9

92.9 sq.

514.8

25.6

67.47

80.1

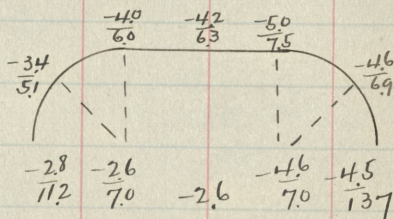
WAB

South Leg Wye "B" Line

Sta.	Grade	L	C	R
4+40 H.B.		$\frac{00}{80} - \frac{35}{80}$	-4.8	$\frac{-56}{70} - \frac{50}{14.5}$ 7.0 Rdb. on R

+47.0c

+74.5. +2.10



4+80 H.B.

5 5809.12

5+05

$\frac{00}{70} - \frac{28}{70}$	-2.8	$\frac{-36}{12.4}$
---------------------------------	------	--------------------

+20

$\frac{00}{70}$	0.0	$\frac{-2.4}{7.0} - \frac{00}{7.0}$
-----------------	-----	-------------------------------------

+5.00

"B" Line Sta 5+20 to 6+20.7 End

included in "N" Line Notes Sta 4+40 to Sta. 5+40

6+20.7 5815.16

= "N" 5+89.9

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.

Bdb. on 2

90.60

86.1

73.2

11.7

165.0

64.27

8.1 Sta 4+74 to 5+20

Emb 76.9 @ 11.

52.7 Made from Cut
North leg.

49.56

16.1

8.40

76.9

Siding at C.R. Wye "D" Line

Sta.	Grade	L	C.	R
L2+16.7 = Sta 0	5813.72	Quantities Sta 0 to Sta. 1+30 included in "L" Line Notes Sta. 2+20 to Sta. 3+45		
1 +30	-310	$\frac{-1.8}{9.7}$	-2.3	$\frac{-2.8}{7.0} \frac{00}{7.0}$
1 +85		$\frac{-1.2}{8.8}$	-1.0	$\frac{-1.2}{7.0} \frac{00}{8.0}$
2+0.5	5807.36			
2+10		$\frac{-1.2}{8.8}$	-1.0	$\frac{-1.2}{7.5} \frac{-0.6}{7.9}$
+35		$\frac{-1.6}{9.4}$	-1.4	$\frac{-2.0}{7.0} \frac{-1.0}{8.5}$
+60		$\frac{-2.8}{11.2}$	-2.4	$\frac{-2.6}{6.0} \frac{-1.0}{8.5}$
2+80	500	$\frac{-3.0}{11.5}$	-3.5	$\frac{-4.7}{9.0} \frac{-2.0}{9.0}$
3+10		$\frac{-1.8}{9.7}$	-1.5	$\frac{-2.0}{9.0}$
+15		$\frac{-0.8}{8.2}$	00	$\frac{00}{6.0}$
3+25		$\frac{00}{8.0}$	+1.5	$\frac{+2.8}{6.0}$

Boulder 3x3x6 = 20 cy.

60 Rdb. on R.

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.

	35.30		53.2
16.90			Sta 1 + 30 to 3 + 25
			15.7 Emb. 212.9 C.Y.
16.94			made from Cusp
			19.7 ahead
25.58			
			31.3
41.99			39.5
64.52			50.5
26.32			
		2.0	2.7
0.00	2.80		
		3.5	0.3
18.90	0.00	5.5	212.9

10/11/25

Siding at C.K. Wye "D" Line

Sta.	Grade	L	C	R
L = 3+30		$\frac{+0.8}{8.2}$	$\frac{+1.6}{3.0}$	$\frac{+1.8}{6.0}$
+40		$\frac{+1.0}{8.3}$	$\frac{+1.7}{6.0}$	$\frac{+1.8}{6.0}$
+80		$\frac{+1.6}{10.4}$	$\frac{+2.0}{6.0}$	$\frac{+2.2}{6.0}$
11		$\frac{+3.5}{10.9}$	$\frac{+3.2}{6.0}$	$\frac{+2.8}{6.0}$
+25	0.00	$\frac{+1.6}{10.4}$	$\frac{+1.0}{6.0}$	$\frac{+1.4}{6.0}$
+30		$\frac{av}{10.0}$	$\frac{av}{6.0}$	$\frac{av}{6.0}$
+45	10.0 Rdb. on "L"	$\frac{+1.6}{10.4}$	$\frac{av}{3.0}$	$\frac{-2.0}{9.0}$
+60		$\frac{av}{10.0}$	$\frac{-1.8}{6.0}$	$\frac{av}{6.0}$
+70		$\frac{+2.8}{10.6}$	$\frac{-3.5}{9.0}$	$\frac{-2.0}{9.0}$
+75		$\frac{+4.0}{11.0}$	$\frac{+2.0}{6.0}$	$\frac{av}{6.0}$

6.0 Rdb. on R.

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

25.36

^{5.5}
4.1 Sta 3+15 to 5+55 Cus. 3346.9 SR

8.7 Haul 49.9 back fur

21.56

" 30 ahead & side fur

38.9 " 120-4+15 to 2+20 = 234

31.00

" 14-5+55 "line = 81

Total Haul 315

31.1

52.94

32.6

17.40

1.6

0.00

0.00

1.5

2.7 Sta 4+30 to 4+75

5.60

9.60

Emb 15.2 C.Y.

1.0

6.7 "made from cut

0.00

14.40

opposite

1.6

5.0

12.50

12.75

4.6

0.8

37.00

0.00

131.2

15.2

60 Rd b. on R.

Siding at C.K. Wye "D" Line

Sta.	Grade	L	C	R		
4+90		$\frac{+4.4}{11.1}$	+3.8	$\frac{+2.6}{6.0}$		
					Boulder 2x3x6 = 1.3 c.y.	
5+10	0.0	$\frac{+3.2}{10.8}$	+1.0	$\frac{.00}{6.0}$		
					6.0 Rdb. on R	
+25		$\frac{+2.4}{10.6}$	+0.8	$\frac{.00}{4.0}$	$\frac{-1.0}{9.0}$	
5+35.8	580736				Boulder 2x3x6 = 1.3 c.y.	
+40		$\frac{+2.0}{10.6}$	$\frac{.00}{2.0}$	-0.6	$\frac{-2.3}{9.0}$	$\frac{-0.6}{9.0}$
+55		$\frac{.00}{10.0}$	-1.6	$\frac{-3.2}{9.0}$	$\frac{-0.6}{9.0}$	
5+61 H.B.	+2.10	$\frac{.00}{8.0}$	-1.8	$\frac{-3.5}{7.0}$	$\frac{.00}{7.0}$	
+64 Toe						
6+10 Toe		$\frac{-3.4}{5.1}$	$\frac{-3.2}{4.8}$	$\frac{.00}{3.0}$	$\frac{-4.0}{6.0}$	$\frac{-3.4}{5.1}$
6+15 H.B.		$\frac{-3.0}{11.5}$	$\frac{-3.0}{7.0}$	-3.0	$\frac{-3.2}{7.0}$	$\frac{.00}{7.0}$
6+21	5809.15					
+25		$\frac{-2.6}{10.9}$	-2.7	$\frac{-3.0}{7.0}$	$\frac{.00}{7.0}$	
+40		$\frac{-2.4}{10.6}$	-0.8		$\frac{.00}{7.0}$	
8+35.8	5819.91	= "N 6+85° P.O.C.				

Sta 6+40 to Sta. 8+35.8 included

Acre s.		Cub. yds.	
Exc.	Emb.	Exc.	Emb.

62.29

131.2

27.6

1.3

32.1

24.40

6.00

11.7

0.2 Sta 5+10 to 5+64

17.84

1.00

Emb 23.3 @ 11.

1.3

7.2

3.8 made from cut back

8.00

12.75

1.5

11.5

6.00

18.70

213.9

120.7

334.6

6.0

6.00

25.75

1.8

23.3

4.9 Sta 6+10 to 6+40

49.45

Emb 38.6 @ 4.

43.76

17.2 made from cut

North leg.

16.5

15.44

38.6

Sta 6+40 to Sta. 8+35.8 included
in "N" Line Notes Sta 4+90 to Sta 6+85.

WAW

Charge
To main line

Sec. O

Channel on L 6+80 North leg V.

Sta	L		R	Areas	Cu Yds
0	0.0		0.0	0.0	
+30	0.0		$\frac{1.5}{10.0}$ $\frac{0.0}{12.0}$	9.00	5.0
+67	00	$\frac{2.2}{15}$ $\frac{2.8}{10.0}$	$\frac{0.0}{13.0}$	27.10	24.7
+115	00	$\frac{2.3}{2.5}$ $\frac{2.0}{12.0}$	$\frac{0.0}{14.0}$	25.30	46.6
+55	0.0	$\frac{2.6}{1.5}$ $\frac{2.34}{4.5}$	$\frac{0.0}{12.0}$	30.20	41.1
+70	00	$\frac{2.6}{2.0}$ $\frac{2.5}{4.0}$	$\frac{0.0}{11.0}$	22.95	14.8
+79	0.0	$\frac{1.2}{2.5}$ $\frac{0.4}{10.0}$	$\frac{0.0}{11.0}$	4.70	5.1
+85	0.0		0.0	0.0	0.9
					<u>138.2</u>

Class 25% L.R. 34.6 CY.
75% S.R. 103.6 "

0 to 0+67 Rip Rap 2x3.5 = 17.4 Cu Yds. ✓

Channel 23+15 to 25+50

0	$\frac{0.0}{9.0}$		$\frac{0.0}{9.0}$	0.0	
+25	$\frac{2.8}{9.7}$	+1.2	$\frac{0.0}{9.0}$	23.82	11.0
+50	$\frac{3.8}{10.0}$	+2.0	$\frac{0.0}{9.0}$	36.10	27.7
+75	$\frac{5.6}{10.4}$	+3.0	$\frac{1.7}{9.4}$	62.55	45.7
+1	$\frac{3.8}{10.0}$	+2.8	$\frac{1.2}{9.3}$	49.52	51.9
+25	$\frac{4.0}{10.0}$	+2.0	$\frac{1.4}{9.4}$	43.70	43.2
+50	$\frac{3.0}{4.8}$	+0.8	$\frac{0.6}{9.2}$	23.80	31.2
+75	$\frac{2.4}{9.6}$	+0.4	$\frac{0.5}{9.1}$	16.79	18.8
					<u>229.5</u>

18' Base 14% - 1

Sta	L	C	R	Areas	Cu. Yds.
2	+1.8 9.5	+1.0	0.0 9.0	17.35	229.5 15.8
+25	+1.3 9.3	0.0		5.85	10.7
+50	0.0 9.0			0.0	2.7

Class Lo. Rock 48.0 C.Y.
S. " 210.7 "

Haul 220. Yds Free into Fill opposite

Channel on L. 27 to 30 + 80

0+30	0.0 8.0		0.0 8.0	0.0	↑ 8.8
+50	+2.8 8.7	+1.0	+1.0 8.3	23.70	75.9
1	+4.0 9.0	+3.4	+3.0 8.8	58.26	26.3
+15	+2.6 8.7	+2.2	+1.8 8.5	36.52	25.0
+30	+6.8 9.7	+2.0	+2.0 8.5	53.40	23.5
+45	+3.6 8.9	+1.5	+1.0 8.3	31.30	30.3
+65	+6.7 8.0	+3.7	+0.4 8.0	50.60	21.3
+80	+4.0 9.0	+1.2	0.0 8.0	26.20	14.5
2	+2.8 8.7	+0.2	0.0 8.0	12.87	29.7
+50	+3.0 8.8	+0.6	0.0 8.0	17.04	3.3
3	+1.8 8.5	+0.4	0.0 8.0	10.50	25.5
+50	+1.5 8.4	0.0		6.00	15.3
+80	0.0 8.0			0.0	3.3

Class Lo. Rock 74.5 C.Y.
S. Rock 226.2 "

Haul 120. Yds free to Fill opposite

Sec 0 Excavation for Depot Ground

Sta	L	C	Areas	Cu.Yds.
Siding				
3+50	$\frac{0.0}{15.0}$	$\frac{0.0}{17.0} \frac{0.0}{12.0}$	0.0	
+75	$\frac{0.0}{50.0} \frac{+1.6}{27.0}$	$\frac{+1.6}{13.0} \frac{0.0}{7.04}$	42.88	19.9
+	$\frac{0.0}{50.0} \frac{+2.4}{27.0} \frac{+2.2}{14.5} \frac{0.0}{7.05}$		60.75	48.0
+25		$\frac{0.0}{27.0} \frac{0.0}{15.0}$	0.0	28.1
+45	$\frac{0.0}{27.0}$	$\frac{0.0}{5.0}$	0.0	
+60	$\frac{0.0}{30.}$	$\frac{+4.0}{20.} \frac{0.0}{10.0}$	40.00	11.1
+75	$\frac{0.0}{30.0} \frac{+6.0}{20.0} \frac{+2.0}{14.0} \frac{+4.0}{10.0}$		66.00	29.4
+90	$\frac{0.0}{40.0} \frac{+10.6}{20.0} \frac{+6.0}{14.0} \frac{+6.0}{10.0}$		175.80	67.2
5	$\frac{0.0}{30.0} \frac{+7.2}{16.0} \frac{+4.0}{12.0}$		72.80	46.0
+10		$\frac{0.0}{10.0}$	0.0	13.5

263.2 ✓

Class 25% Lo Rock 65.8 C.Y.

" 75% S. " 197.4 "

Haul 120 yds frr into Road Crossing
mate balance

Wagon Road ~ 2+10 N Leg I to 13+75 Main Line

2+10 N Leg				
= 0	0.0	0.0	0.0	
+35	$\frac{0.0}{12.0}$	$\frac{+15.0}{10.0}$	9.00	5.8
+50	$\frac{0.0}{1.0}$	0.0	0.0	2.5
+150	0.0	0.0	0.0	
+180	$\frac{0.0}{14.0}$	$\frac{+1.4}{4.0} \frac{0.0}{0.0}$	9.80	5.4
2+20	$\frac{0.0}{4.0}$	$\frac{+1.0}{2.0} \frac{0.0}{0.0}$	4.50	10.6

✓ 4.3

Ground

33

ds.

9.9

9.0

9.1

1

4

2

0

5

W X

ne

	L	C	Area	Cu. Yds.
2+40	$\frac{0.0}{9.0}$	$\frac{+1.0}{1.0}$ 0.0	4.50	24.3 3.3
3	$\frac{0.0}{12.0}$	$\frac{+0.6+0.9}{11.0}$ 1.0 0.0	8.25	14.2
+30	0.0	0.0	0.0	4.6
5+40	0.0	0.0	0.0	
+50	$\frac{0.0}{8.0}$	$\frac{+0.6}{2.0}$ 0.0	2.40	0.4
+90	$\frac{0.0}{8.0}$	$\frac{+0.7}{2.0}$ 0.0	2.80	3.9
6+20	$\frac{0.0}{7.0}$	$\frac{+0.7}{1.0}$ 0.0	2.45	2.9
+45	$\frac{0.0}{7.0}$	$\frac{+1.6}{3.0}$ 0.0	5.60	3.7
+70	$\frac{0.0}{2.5}$	$\frac{+6.0}{20.0}$ 0.0	7.50	6.1
+75	0.0		0.0	0.7
				64.1

Class Solid Rock 64.1 @ 4.

Borrow for approach to xing at 0

$$\frac{1}{2} \times 15 \times 50 = 27.8 \text{ Cu. Yds. Earth}$$

Rip Rap along lower side of road

$$\left. \begin{array}{l} 1+80 \sim 2+30 \\ 3+30 \sim 3+80 \\ 4+45 \sim 4+70 \\ 5+90 \sim 6+45 \\ 6+45 \sim 6+75 \end{array} \right\} \begin{array}{l} 1 \times 1 \times 50 \\ 1 \times 1.5 \times 50 \\ 1 \times 1.5 \times 25 \\ 1.5 \times 2 \times 55 \\ 2 \times 3 \times 30 \end{array} = 18.8 \text{ Cub. Yds.}$$

200

Sec. 0

Borrow Pits

Sta L C R Areas Cub Yds.

Borrow Pit 60' L Sta 3

1 x 31 x 90 = Earth

103.3 *

6 + 30 ~ 110' R ~ 1.5 x 35 x 61 = Earth

118.6 *

2 * 10 N. Leg Y on R - 2 x 10 x 30. Earth

22.2

3 " " " " ~ 2 x 17 x 28. Earth

35.3

13 + 40 ~ 45' R - 1 x 23 x 61 Earth

52.0

Hauled from to fill - 12 + 75 to 21 + 80

Borrow Pit on L 13 + 80 to 16 + 75

13 + 80

20

0.0

0.0

0.0

11.6

+ 20

0.0 + 60 + 1.3 0.0
23.0 20.0 10.0 8.0

46.80

64.0

+ 45

0.0 + 74 + 2.6 0.0
31.4 26.0 13.0 8.0

91.48

159.9

+ 70

0.0 + 80 + 6.6 + 7.0 + 2.8 0.0
56.0 52.0 42.0 30.0 18.0 8.0

253.90

217.5

+ 95

0.0 + 40 + 6.8 + 5.3 + 5.8 + 3.4 0.0
62.0 49.0 46.0 34.0 29.0 16.0 8.0

215.95

38.6

1

0.0 + 7.2 + 5.6 + 6.0 + 3.2 0.0
53.0 46.0 36.0 30.0 16.0 8.0

201.20

128.8

+ 120

0.0 + 3.6 + 3.6 + 4.8 + 2.6 0.0
57.0 48.0 40.0 35.0 16.0 8.0

146.70

124.6

+ 45

0.0 5.0 3.4 0.0
54.0 37.0 20.0 15.0

122.40

745.0

Vds.	Sta	L	C	R	Areas	Cub Vds.
	1+70	$\frac{30+56+56+32}{58.45}$	$\frac{32}{36.22}$	$\frac{00}{10.}$	167.60	745.0 134.3
3 *	+95	$\frac{0.0+56+30}{55.45}$	$\frac{00}{21.11}$		146.20	145.3
	2+20	$\frac{0.0+42+42+28}{50.42}$	$\frac{00}{26.15}$		93.10	110.8
6 *	+45	$\frac{0.0+56+28+36}{60.49}$	$\frac{00}{32.27}$		136.20	106.1
	+65	$\frac{0.0+20+44+46}{61.59}$	$\frac{00}{37.21}$		122.20	95.7
2.2 X	+85	$\frac{0.0+26}{42.}$	$\frac{00}{37.26}$		20.80	52.9
5.3 X	+95	$\frac{0.0}{40.}$			0.0	2.6

Class 60% Lo Rock 835.7 C.Y.

" 40% S. " 557.0 "

Haul 892.7 into fill 12+75 to 21+80 free

" 500. yds 250' " " = 1250 Haul

Borrow Pit on L 17+25 to 18+45

1 x 22' x 120' = Earth

Hauled free into fill opposite

B.P. on R. in Creek - 18+20 to 19+40

0	0.0	0.0	0.0
+20	$\frac{0.0+28}{23.0}$	$\frac{12.0}{12.0}$	0.0
+50	$\frac{0.0+20+22}{22.0}$	$\frac{15.0}{10.0}$	$\frac{12.0}{16.0}$
+70	$\frac{0.0+24}{22.0}$	$\frac{10.0}{17.0}$	$\frac{28}{20.0}$
1	$\frac{0.0+26}{22.0}$	$\frac{12.0}{11.0}$	$\frac{26}{12.0}$
+20	0.0	0.0	0.0

Class Lo Rock 240.6 C.Y. - Haul opposite free

Section O

Borrow Pits

Sta L C R. Areas. Cub. Yds.

19+25 B.P. 54' L

0	0.0	0.0	18.5
+12	$\begin{matrix} +156 & 0.0 & (+1.0) \\ 400 & 23.0 & 90 \end{matrix}$	0.0	125.00
+13	$\begin{matrix} +150 & 0.0 & (+1.0) & (+1.0) \\ 420 & 27.0 & 110 & 0.0 \end{matrix}$		115.6
+14	$\begin{matrix} +154 & 0.0 & (+1.0) & (+1.0) \\ 390 & 23.0 & 110 & 0.0 \end{matrix}$		48.9
+15	$\begin{matrix} 0.0 & (+1.0) & (+1.0) \\ 110 & 11.0 & 0.0 \end{matrix}$		23.8
		11.00	206.8

Class 15% L.R. 31.0 C.Y.

" 85% S.R. 175.8 "

Haul 206.8 Yds to Fill 12+75 to 21+80 ~ 250' = 310 Yds Haul.

Borrow Pit in Cut - 25+30 to 27

25+30		0.0	0.0	3.7
+50		$\begin{matrix} 0.0 & +26 & 140 \\ 120 & 8.7 & 146 \end{matrix}$	15.18	24.7
+60		$\begin{matrix} 0.0 & (+38) & 132 \\ 201 & 9.0 & 300 \end{matrix}$	118.36	129.3
+85		$\begin{matrix} 90 & 0.0 & 68 & 110 & 176 \\ 80 & 21.0 & 9.7 & 254 & 312 \end{matrix}$	160.94	189.3
26+10	$\begin{matrix} 4.0 & 144 \\ 100 & 91 \end{matrix}$	$\begin{matrix} 0.0 & 0.0 & 80 & 20 & 170 \\ 74 & 18.0 & 0.0 & 280 & 36.0 \end{matrix}$	248.00	116.2
+25	$\begin{matrix} 28 & 0.0 \\ 87 & 140 \end{matrix}$	$\begin{matrix} 0.0 & 72 & 160 & 150 \\ 140 & 98 & 270 & 326 \end{matrix}$	170.16	19.6
+30	$\begin{matrix} 22 & 0.0 \\ 86 & 130 \end{matrix}$	$\begin{matrix} 0.0 & 90 & 36 & 100 \\ 12.0 & 98 & 122 & 180 \end{matrix}$	41.70	21.5
+50	$\begin{matrix} 0.0 \\ 80 \end{matrix}$	$\begin{matrix} 0.0 & 60 & 72 \\ 102 & 98 & 126 \end{matrix}$	16.32	10.1
27		$\begin{matrix} 0.0 \\ 80 \end{matrix}$	0.0	514.4

Haul 110.50 from

" 310 from 26 to 24+40 = 496

" 94.4 " 26+25 to 28+05 = 264

Class S.R. 514.4

Clearing

35

Sta	to Sta	Width	Sq. Ft.
0-50	3	50'	17500
3	5	90'	18000
5	9	65	26000
9	10	100	10000
10	16	70	42000
24	26	60	12000
26	33	90	63000
36	43	75	52500
1x50	4x50	95" I. S. leg	28500
2x25	4	80"	14000
4	7x50	90" N. leg.	31500
7x50	9x85	60	14100
Wagon Road ~ 20' x 630'			12600

7.84 Acres = 341700

Surface Ditches

0-60 $\left. \begin{array}{l} 1.5 \times 4.5 \times 58, \\ 1.0 \times 3.0 \times 30. \end{array} \right\} = 17.8 \text{ S.R.}$

3+65 Ditch to Box Culvert.

$1.5 \times 4 \times 200 = 1444 \left\{ \begin{array}{l} 40.0 \text{ C.Y. L.R.} \\ 4.4 \text{ " S.R.} \end{array} \right.$

Box Culverts

3+65 $1 \times 4\frac{1}{2} \times 40$ Double inside 1656 Ft. BM.

10+15 $1 \times 2\frac{1}{2} \times 20$ " 512. "

18+05 $2 \times 2\frac{1}{2} \times 30$ " 999 " "

24+25 $1 \times 2\frac{1}{2} \times 26$ " 666 " "

40+15 $2 \times 2\frac{1}{2} \times 25$ " 827 " "

4660 " "

Section O

Rip Rap & Slope Wall

Sta to Sta

Cub. Yards
Slope Wall Rip Rap

26+53 29+60 3.0 x 5.0 x 307. 85.3 85.3 ✓

23+85 25+25 2.0 x 5.0 x 130. 48.1 ✓

Retaining Wall on R of Creek
23+10 23+85 2.5 x 6.5 x 75. 45.1 ✓

21+50 23 2.5 x 5.5 x 150. 76.4 ✓

20+20 21+20 2. x 3. x 90. 20.0 ✓

17 20 2. x 4. x 300.

14+75 17. 2. x 5. x 225.

12+75 14. 2. x 4. x 125.

11 12+50 2. x 3. x 150.

2 5 1 x 2 x 300

8 9+10 "Y" stem 2 x 3 x 110.

242.6 ✓

22.0 ✓

24.4 ✓

274.9

374.3 ✓

Have 121 yds 700 ft. = 847 yds Have

36

[Handwritten signature]

Section O

PAGES	Acres	Clearing	Excavation ~ Cub. Yds.			Cu. Yds.	Cu. Yds Bank
			Total	Lo Rock	Sh Rock	Total in Banks	made from Cuts.
1			✓ 540.8	✓ 51.9	✓ 488.9		
4			✓ 69.0	✓ 6.6	✓ 62.4	✓ 1016.4	903.1
5						✓ 117.7	9.1
6			✓ 20.8		✓ 20.8	✓ 547.1	✓ 16.0
8			✓ 79.3		✓ 79.3	✓ 2428.9	✓ 439.0
11			✓ 50.7	✓ 50.7		✓ 113.5	✓ 48.8
12			✓ 370.9		✓ 370.9	✓ 840.5	✓ 420.5
13			✓ 36.8		✓ 36.8	✓ 1491.4	✓ 1397.0
14			✓ 1072.3	✓ 75.0	✓ 997.3	✓ 388.3	✓ 388.3
15			✓ 155.3		✓ 155.3		
17			✓ 8157.8		✓ 8157.8	✓ 1233.9	✓ 1233.9
18			✓ 1447.1	✓ 467.3	✓ 979.8		
19						✓ 304.2	✓ 304.2
20			✓ 2671.1	✓ 382.0	✓ 2289.1	✓ 403.3	✓ 403.3
21			✓ 26.9		✓ 26.9	✓ 55.2	✓ 33.0
22			✓ 68.0		✓ 68.0		
22			✓ 38.2		✓ 38.2		
23						✓ 585.6	✓ 550.3
25			✓ 751.5	✓ 138.3	✓ 613.2	✓ 153.5	✓ 153.5
26			✓ 514.8	✓ 29.7	✓ 485.1	✓ 97.4	✓ 97.4
27						✓ 165.0	✓ 165.0
28						✓ 76.9	✓ 76.9
29						✓ 212.9	✓ 212.9
30			✓ 334.6		✓ 334.6	✓ 15.2	✓ 15.2
31						✓ 23.3	✓ 23.3
31						✓ 38.6	✓ 38.6
32			✓ 138.2	✓ 34.6	✓ 103.6		
32			✓ 258.7	✓ 48.0	✓ 210.7		
32			✓ 300.7	✓ 74.5	✓ 226.2		
33			✓ 263.2	✓ 65.8	✓ 197.4		
33			✓ 64.1		✓ 64.1	27.8	
35	7.84		589.62.2	40.0	22.2	189	
36							
7.84			✓ 17493.0	1464.4	✓ 16028.6	10336.6	6929.3

Summary

Bank from	Borrow ~ Cub. Yds.			Cu. Yds.	Cu. Yds.	Slope Wall	Cu. Yds.	Rip Rap	F.F.B.M. Lumber in Culverts
	Earth	Lo. Rock	S. Rock	Haul					
3.1	✓ 1133			✓ 1200					
9.1	✓ 1086			✓ 271					
6.0	✓ 478.0	✓ 53.1							
9.0	✓ 149.8	✓ 1107.3	✓ 732.8	✓ 1560	-				
48.8	✓ 64.7			✓ 220					
20.5			✓ 420.0	✓ 496					
97.0			✓ 94.4	✓ 256					
8.3				✓ 264					
				✓ 1460					
33.9				✓ 31233					
4.2				✓ 5989					
3.3				✓ 4264					
3.0	✓ 22.2								
	✓ 35.3								
0.3				✓ 1315					
3.5				✓ 624					
7.4									
5.0									
6.9									
2.9									
5.2				✓ 315					
3.3									
8.6									
							17.4 ✓		
				120					
	27.8 ✓								
							18.8 ✓		
								4660 ✓	
	999.7 ✓	1160.4 ✓	1247.2 ✓	50434 ✓	2749 ✓	374.3 ✓	410.5 ✓	4660 ✓	

SECTION O - COST

CLEARING	784 ACRES @	35.00	✓	✓	27440
EXCAVATION L. ROCK	14644 Cu. YDS.	0.45	✓	✓	65898
" S. ROCK	16028.6	0.90	✓	✓	14425.74
BORROW EARTH	999.7	0.15	✓	✓	149.95
" L. ROCK	1160.4	0.40	✓	✓	464.16
" S. ROCK	1247.2	0.90	✓	✓	1122.48
HAUL 100 ft.	50434.	0.015	✓	✓	756.51
SLOPE WALL	274.9	2.00	✓	✓	549.80
RIP RAP	410.5	1.00	✓	✓	410.50
LUMBER FT. B.M.	4660.	12.00 ft	✓	✓	55.92

18868.44

7440

5898

25.74

19.95

64.16

2.48

6.51

9.80

0.50

5.92

8.44

✓ 24/11

Section 1

Sta Grade

L

C

R

43

-323

-56

14.7

-19.0

-34.8

54.9

+20

-12.2

23.8

-20.4

-45.2

69.2

43+24.9 568471

+40

-126

24.3

-23.4

-58.0

86.8

+65

-84

18.6

-18.2

-60.6

90.3

43+85

-72

16.9

-17.6

-67.6

100.0

44+10

-62

15.6

-17.5

-79.0

115.6

+30

-56

14.7

-14.0

-92.4

134.1

+50

-12

8.7

-9.8

-56.0

135.7

+60

00

8.0

-8.2

-55.0

138.5

44+75

+14.0

11.5

+17.8

0510.0

8.0

-54.6

600

-109.2

157.2

Slope spills ahead at 60. out -16.0

22.0

22.0

Areas
Exc Emb Exc Emb

802.60

723.0

1149.50

Sta 43 to 44 + 97

998.7 Emb 923.46 C.Y.

1546.97

made from Cuts

1286.8

1232.49

934.4

1290.52

1267.0

1446.20

1048.4

1384.60

1127.6

1660.03

595.2

800 1554.15

42.5 846.7

229.55 1493.96

709

406.8

113.4

923.46

was

Sta	Grade	L	C	R
44+80	-3.50	$\frac{+18.0}{12.5}$	$\frac{+27.0}{10.0}$	$\frac{+20.0}{13.0}$
44+84.6	5679.2	$\frac{+37.6}{17.4}$	$\frac{+32.8}{13.3}$	$\frac{+21.0}{13.3}$
44+90				
45+03	↑	$\frac{+48.8+46.4}{14.1}$	$\frac{+34.0}{6.0}$	$\frac{+20.5}{13.1}$
+10	-3.16	$\frac{+45.6}{13.7}$	$\frac{+40.6}{4.0}$	$\frac{+23.2}{13.8}$
+23	Slope on Left 8:1	$\frac{+47.8}{14.0}$	$\frac{+39.4}{15.8}$	$\frac{+31.0}{15.8}$
+30		$\frac{+53.2}{14.7}$	$\frac{+45.8}{9.0}$	$\frac{+32.0}{16.0}$
+35		$\frac{+55.0}{14.9}$	$\frac{+48.5}{19.6}$	$\frac{+46.4}{19.6}$
+50	5677.35	$\frac{+51.4}{14.3}$	$\frac{+46.6}{18.5}$	$\frac{+42.0}{18.5}$
+70	-2.86	$\frac{+45.2}{13.7}$	$\frac{+40.4}{17.8}$	$\frac{+39.0}{17.8}$
45+75		$\frac{+42.4}{13.3}$	$\frac{+38.2}{17.3}$	$\frac{+37.0}{17.3}$

Boulder 30x40x70 = 3.1

Boulder 30x40x50 = 2.2

Boulder 50x80x80 = 11.9

Boulder 30x30x60 = 20

Areas		Cub Yds.	
Exc	Emb.	Exc	Emb.
535.75		113.4	
		235.9	
737.88		343.1	
687.41		188.9	
770.05		Slip 27.5	
		3.1	
		402.6	
902.26		S. 4.5	
		260.6	
1108.30		S. 14.6	
		2.2	
		217.6	
1242.22		S. 93.5	
		11.9	
		661.1	
1137.84		S. 194.5	
		781.8	
973.10		S. 43.7	
		2.0	
		173.6	
902.06		S. 153.3	
		588.5	
		451.7.9	

was

Sta	Grade	L	C	R
4	45+95	$\frac{+33.8}{12.2}$	+31.4	$\frac{+29.6}{15.4}$

4	46+15	$\frac{+26.0}{11.3}$	+21.0	$\frac{+21.4}{13.4}$
---	-------	----------------------	-------	----------------------

4	+30	$\frac{+25.6}{11.2}$	+15.6	$\frac{+10.2}{10.6}$
---	-----	----------------------	-------	----------------------

	+50	$\frac{+28.0}{11.5}$	+17.0	$\frac{+9.2}{10.3}$
--	-----	----------------------	-------	---------------------

	+65	$\frac{+46.8}{13.8}$	+36.0	$\frac{+17.0}{6.0}$ $\frac{+14.2}{11.6}$
--	-----	----------------------	-------	--

	+75	$\frac{+26.4}{11.3}$	+20.2	$\frac{+15.2}{11.8}$
--	-----	----------------------	-------	----------------------

	46+90	$\frac{+27.2}{11.4}$	+20.2	$\frac{+13.4}{11.4}$
--	-------	----------------------	-------	----------------------

	47+10	$\frac{+21.2}{10.7}$	+15.8	$\frac{+9.6}{10.4}$
--	-------	----------------------	-------	---------------------

Boulder 40x8.0x10.0 =

	+25	$\frac{+14.0}{9.8}$	+10.8	$\frac{+4.6}{7.0}$ $\frac{0.0}{8.0}$
--	-----	---------------------	-------	--------------------------------------

4	47+50	$\frac{+5.0}{8.6}$	00 30	$\frac{-4.0}{26.0}$ $\frac{-27.8}{54.5}$ $\frac{-38.0}{}$
---	-------	--------------------	-------	---

-2.86

Areas Cub. Yds
Exc Emb. Exc Emb.

686.92

4517.9
S. 124.0
420.7

448.95

S. 53.2 Start 4.160 to 4.745 Exc. 7824.4 Cu.
211.7 Class Slip Lo. Rock 1574.3 "

313.24

S. 103.9 Balance Solid " 6250.1 "
239.8 Hand 278.9 yds Do. for

334.10

S. 159.8 " 1133. N. "
275.1 " 3420 ~ 46 + 0.5 to 48 + 10 = 7011

656.40

S. 141.8 " 2425 ~ 45 + 35 to 50 + 75 = 13095
195.6 waste 400. Total Hand 20106

399.71

S. 156.6
220.1

392.68

S. 123.2
252.8

289.89

S. 72.4
11.9
126.4

165.12 000

S. 66.9
85.7 165.4

20.00 535.70 7564.5

Sta	Grade	L	C	R
4 47+75	-286	$\frac{00}{8.0}$	$\frac{-420}{-90}$	$\frac{-640}{200} \frac{-86.8}{800} \frac{115.3}{115.3}$
4 48	-286	$\frac{00}{8.0}$	$\frac{-280}{-60}$	$\frac{-638}{300} \frac{-190.4}{600} \frac{245.0}{245.0}$
4 48	56702.0	$\frac{00}{8.0}$	$\frac{-316}{-72}$	$\frac{-77.0}{400} \frac{-134.6}{700} \frac{168.3}{168.3}$
4 48	56702.0	$\frac{5.0}{13.3}$	$\frac{-240}{-14.4}$	$\frac{-69.0}{16.0} \frac{-106.8}{600} \frac{140.5}{140.5}$
4 48	-316	$\frac{-2.0}{9.5}$	$\frac{-59.0}{-82}$	$\frac{80.8}{80.8}$
4 48	56684.3	$\frac{-14}{8.8}$	$\frac{-24.2}{-7.2}$	$\frac{37.3}{37.3}$
4 48	-350	$\frac{00}{8.0}$	$\frac{-74}{-6.0}$	$\frac{16.3}{16.3}$
4 48	-350	$\frac{+3.8}{9.0}$	$\frac{+16}{+16}$	$\frac{80}{80}$
4 48	-350	$\frac{+15.5}{11.9}$	$\frac{+12.8}{+12.8}$	$\frac{+7.8}{10.0}$
4 48	-350	$\frac{+216}{13.4}$	$\frac{+10.0}{+10.0}$	$\frac{10.5}{10.5}$

Boulder 3.0x3.0x9.0 = 3.0

Fill was staked 1/4 to 1 - line was after ward thrown
to L 50 feet. Embankment foot sl...

↓

2

31

Areas

Cub. Yds

Exc Emb Exc Emb

000 168740 ⁷⁵⁶⁴⁵ 35.9 165.4 10292

12373

276690

50.3

878.8 ^{25%} 48.165

197845 ^{7656.9} 167.536

Emb 5918.9 C.Y.

^{7824.4}

1220.0 made from Cub.

241351

1110.1

58373

233.1

25556

328

000

9880

^{51%} 26.1 3.6

122

2880

000

^{5918.9}

^{5.} 30.6 72.8

23336

^{5.} 64.9 30 1537

319.99

^{359.7}

S.R. added on account of line change 4471-4844

2240 15743

1000

Fill was Staked 1/4 to 1 - line was afterward thrown to L 50 feet. Embankment took slope 13% some measurement shows Fill Quantities to be same as stated.

Sta Grade

L

C

R

49+05

-350

$$\begin{array}{r} +23.0 \\ 13.8 \end{array}$$

+18.0

$$\begin{array}{r} +9.8 \\ 10.5 \end{array}$$

49+14.1

5666.05

+25

$$\begin{array}{r} +16.0 \\ 12.0 \end{array}$$

+9.0

$$\begin{array}{r} +3.8 \\ 9.0 \end{array}$$

+55

$$\begin{array}{r} +11.2 \\ 10.8 \end{array}$$

+44

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+75

$$\begin{array}{r} +7.2 \\ 9.8 \end{array}$$

+16

$$\begin{array}{r} 0.0 \\ 3.0 \end{array}$$

$$\begin{array}{r} -5.0 \\ 13.9 \end{array}$$

50

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

-34

$$\begin{array}{r} -17.0 \\ 30.4 \end{array}$$

+25

-3.37

$$\begin{array}{r} -4.6 \\ 13.3 \end{array}$$

-12.4

$$\begin{array}{r} -36.0 \\ 56.5 \end{array}$$

+50

$$\begin{array}{r} -8.5 \\ 18.7 \end{array}$$

-20.6

$$\begin{array}{r} -41.4 \\ 40.0 \end{array}$$

$$\begin{array}{r} -63.6 \\ 94.4 \end{array}$$

+75

$$\begin{array}{r} -12.5 \\ 24.2 \end{array}$$

-25.6

$$\begin{array}{r} -47.2 \\ 40.0 \end{array}$$

$$\begin{array}{r} -67.6 \\ 100.0 \end{array}$$

51

$$\begin{array}{r} -9.8 \\ 20.5 \end{array}$$

-20.4

$$\begin{array}{r} -44.0 \\ 50.0 \end{array}$$

$$\begin{array}{r} -55.2 \\ 82.9 \end{array}$$

51+22.6 back

=51+27.6 ind.

5659.04

+25

-350

$$\begin{array}{r} -5.4 \\ 14.5 \end{array}$$

-12.6

$$\begin{array}{r} -29.8 \\ 48.0 \end{array}$$

Areas		Cub. Yds.		
Exc	Emb.	Exc	Emb.	
349.90		5 359.7		683.1
		124.1		591.8
		5 94.5		127.49
173.70		193.9		782.4
				1268.5
86.16	000			907.2
		5 89.3		21.9
		114.4		1268.5
39.04	1000			1268.5
		5 19.0		1268.5
		120		1268.5
0.00	124.78	1197.1		1268.5
		714.54		1268.5
		1268.5		1268.5
574.86				1268.5
				1268.5
1539.04				1268.5
				1268.5
2110.11				1268.5
				1268.5
1390.40				1268.5
				1268.5
516.95				1268.5

Sta 48+55 to 50 Exc 1268.5 cu.
 Excess 443.2 cu. = 356.3 due
 to change of line class S.R.
 Slip 86.9 class to R. balance
 of Cut Solid Rock
 2.5 Total L.R. 86.90 cu.
 " S.R. 1181.6 "
 62.4 Haul 347.1 N of cut
 " 850-49 to 5040
 3239 = 1190. yds Haul
 978.7
 2
 1689.4 Sta 49+55 to 52+65
 Emb 6831.5 cu.
 1620.6 made from cuts.
 883.1
 5560.6

Sta	Grade	L	C	R
51+52'		$\frac{-4.0}{12.5}$	-6.6	$\frac{-14.6}{27.1}$

51+85		$\frac{-2.4}{10.3}$	-8.1	$\frac{-50.8}{76.8}$
-------	--	---------------------	------	----------------------

52+10		$\frac{0.0}{8.0}$	-4.3	$\frac{-23.0}{38.6}$
-------	--	-------------------	------	----------------------

+50		$\frac{+3.8}{9.0}$	0.0	$\frac{-8.7}{18.9}$
-----	--	--------------------	-----	---------------------

Boulders $\frac{4.0 \times 4.0 \times 6.0}{4.0 \times 4.0 \times 5.0} = 12.3$
 $\frac{3.0 \times 3.0 \times 4.0}{4.0 \times 5.0 \times 6.0}$

+65		$\frac{+6.1}{9.5}$	+3.8	$\frac{0.0}{8.0}$
-----	--	--------------------	------	-------------------

Boulders $\frac{3.0 \times 4.0 \times 4.0}{4.0 \times 4.0 \times 4.0} = 4.1$

52+85		$\frac{+10.4}{10.6}$	+7.8	$\frac{+3.8}{9.0}$
-------	--	----------------------	------	--------------------

53+25		$\frac{+17.4}{12.4}$	+12.2	$\frac{+3.0}{8.8}$
-------	--	----------------------	-------	--------------------

Boulders $\frac{3.0 \times 5.0 \times 8.0}{3.0 \times 3.0 \times 3.0} = 5.5$

+50		$\frac{+20.4}{13.1}$	+11.4	$\frac{+7.3}{9.8}$
-----	--	----------------------	-------	--------------------

+65		$\frac{+22.6}{13.7}$	+16.5	$\frac{+14.0 + 10.0 + 7.4}{5.0 \quad 6.0 \quad 9.8}$
-----	--	----------------------	-------	--

53+85		$\frac{+21.4}{13.4}$	+11.7	$\frac{+6.6}{9.7}$
-------	--	----------------------	-------	--------------------

Areas		Cub. Yds	
Exc	Emb	Exc	Emb.
	195.78		55606
			357.6
			455.6
	55202		
			339.2
000	180.69		
	5/40	25.0	
		7.5	156.4
15.20	304.5	22.5	
		123	
		20.2	56
57.65	000 s.	38.2	68750
		4.1	
		70.7	
133.24			
	s.	26.9	
		254.9	
210.92			
	s.	26.9	
		55	
		209.4	was
241.33			
	s.	32.4	
		155.4	
318.08			
	s.	118.7	
		209.3	
247.14			
		1236.9	

Sta Grade

L

C

R

54+25

+208

132

+115

+149

92Boulder $3.0 \times 8.0 \times 10.0 = 89$

+35

+1244

141

+156

+58 +44

4091

+50

+194

129

+142

+24

86Boulders $\frac{3.0 \times 3.0 \times 3.0}{3.0 \times 3.0 \times 3.0} = 2.0$

+75

+224

136

+110

4.0

+100

+54

94

54+90

+260

145

+250

8.0 +10.0

+32

88

55+15

+244

141

+178

+22

86

+25

+248

142

+90

+14

84

+40

+218

135

+156

10.0 +84

+26

87

+50

+166

122

+60

+12

83

4 55+75

+153

118

+72

+22

86

-350

Areas		Cub. Yds	
Exc	Emb.	Exc	Emb.

231.60

12369
slp 17.50
3546

89

s. 936
49.5

273.97

s. 53.0
1427

239.85

s. 52.4
20
2074

208.20

s. 63.1
1351

278.05

s. 82.5
271.5

308.43

s. 21.0
954

206.50

s. 8.9
105.3

172.44

s. 15.4
56.5

132.70

s. 66.2
127.8

143.44

3423.1

was

Sta Grade

L.

C.

R

56

+18.3

+4.0

126

+10.4

9.0Boulder $4.0 \times 9.0 \times 12.0 = 16.0$

+20

+2.0

+7.0

130

+15.8

9.8Boulders $\frac{6.0 \times 6.0 \times 12.0}{3.0 \times 3.0 \times 6.0} = 18.0$

+40

+18.8

+5.6

127

+12.2

9.4

+60

+15.3

+2.0

11.8

+8.0

8.5Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

+75

+8.0

0.010.0

+2.2

8.0

57

+3.2

-30.8

8.8

0.0

49.4

+10

0.0

-41.8

8.0

-2.8

64.5Boulders $\frac{8.0 \times 8.0 \times 2.0}{3.0 \times 6.0 \times 6.0} = 5.14$

+25

-3.2

-45.8

11.4

-11.2

70.0

57+35 5637.79

+50

-6.8

-52.4

-70.4

16.4

-18.4

50.0103.7

5

57+75

-7.6

-62.8

-87.6

17.5

-21.4

70.0127.5

Areas		Cub. Yds	
Exc	Emb.	Exc	Emb.
201.52		3443.1 5. 159.7 5. 16.8 181.3	Sta 52+10 to 57+60 Exc 4585.7 cu. Class Slips from 52+10 to 54+25
288.12		5. 18.2 18.0 192.8	Loose Rock 409.7 cu Balance Cut S.R. 4176.0 "
232.41		5. 9.3 141.8	Haul 723.4 So from 434. N "
150.40		5. 25" 20 56.2	910 - 53+80 to 54+20 = 2366. 2250 - 55+10 to 57+55 = 5512 Total 7878.
51.80	0.00	29.9	33.3
12.80	107.80	16	65.9
0.00	247.80	51.4	243.1
		4317.4 268.3 4585.7	59. 1141.4
	1838.02		
		1872.7	
	2206.95	3356.4	

2250
434
2684

1000-

Sta Grade
57+91 0.563602
58

L C R
 $\frac{-94}{199}$ -23.4 $\frac{-62.2}{70.0}$ $\frac{-90.0}{130.8}$

+25 $\frac{-82}{18.3}$ -14.8 $\frac{-49.0}{74.4}$

+45 $\frac{0.0}{8.0}$ -6.0 $\frac{-25.0}{41.4}$

+65 $\frac{+12.4}{111}$ +3.6 $\frac{0.0}{8.0}$

+75 $\frac{+18.0}{12.5}$ $\frac{+15.4}{5.0}$ +5.8 $\frac{+2.8}{8.7}$

Boulders $\frac{3.0 \times 6.0 \times 9.0}{3.0 \times 3.0 \times 9.0} = 9.0$

+85 $\frac{+20.0}{13.0}$ +11.0 $\frac{+6.4}{9.6}$

59 $\frac{+26.0}{14.5}$ +18.6 $\frac{+12.4}{111}$

Boulders $\frac{3.0 \times 3.0 \times 6.0}{3.0 \times 3.0 \times 3.0} = 3.0$

+20 $\frac{+29.4}{15.4}$ $\frac{+23.2}{2.0}$ +18.6 $\frac{+15.6}{11.9}$

+35 $\frac{+26.0}{14.5}$ +16.8 $\frac{+10.2}{10.6}$

59+50 $\frac{+23.2}{13.8}$ +15.0 $\frac{+9.4}{10.4}$

-2.86

Areas.

Cub. Yds.

not quite 214

Exc.

Emb

Exc

Emb.

2317.61

33564

20947.0 to 56+75 1/2 58+65

14832 Emb 7408.0 @ 4.

886.18

5761.0 made from

415.5 cuts & swell on

0.00

23570

S.

05

207

58.2 Balance 1647.0

83.98

0.00

S.

3.1

478 55+75-57+10 and 59+90-61+15

7408.0 from measured pits

174.18

S.

63 See Page 72.

90

74.8 Class Borrow S.R. 1647.0 @ 4.

229.90

S.

132

172.7

9 Laid 1176.

391.68

S.

61.5

30

3149

7408

285

74304

1647

2684

4331

710

1150

6191

1547

7718

458.51

S.

578

226.1

355.64

S.

27.0

1854

311.90

1720.8

Sea Grade

L

C

R

59+65

$$\begin{array}{r} +22.0 \\ \hline 13.5 \end{array}$$

+13.4

$$\begin{array}{r} +5.8 \\ \hline 9.5 \end{array}$$

Boulders $\frac{3.0 \times 4.0 \times 5.0}{3.0 \times 3.0 \times 6.0} = 4.2$

+85

$$\begin{array}{r} +15.2 \\ \hline 11.8 \end{array}$$

+10.8

$$\begin{array}{r} +9.0 +5.2 \\ \hline 6.0 \quad 9.3 \end{array}$$

60

$$\begin{array}{r} +11.8 \\ \hline 11.0 \end{array}$$

+3.5

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

Boulders $\frac{4.0 \times 4.0 \times 6.0}{2.0 \times 4.0 \times 4.0} = 4.7$

+10

$$\begin{array}{r} +9.8 \\ \hline 10.5 \end{array}$$

+4.0

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

+25

$$\begin{array}{r} +8.4 \\ \hline 10.1 \end{array}$$

+2.2

$$\begin{array}{r} 0.0 -11.8 \\ \hline 4.0 \quad 23.3 \end{array}$$

Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

+50

$$\begin{array}{r} +6.2 \\ \hline 9.6 \end{array}$$

+1.4

$$\begin{array}{r} 0.0 -6.6 \\ \hline 4.0 \quad 16.1 \end{array}$$

+75

$$\begin{array}{r} +8.8 \\ \hline 10.2 \end{array}$$

+2.6

$$\begin{array}{r} 0.0 -2.6 \\ \hline 5.0 \quad 10.6 \end{array}$$

+90

$$\begin{array}{r} +12.6 \\ \hline 11.2 \end{array}$$

+6.6

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

61

$$\begin{array}{r} +16.6 \\ \hline 12.2 \end{array}$$

+8.2

$$\begin{array}{r} +3.8 \\ \hline 9.0 \end{array}$$

+25

$$\begin{array}{r} +25.0 \\ \hline 14.3 \end{array}$$

+17.6

$$\begin{array}{r} +11.4 \\ \hline 10.9 \end{array}$$

-2.86

Areas.		Cub Yds.	
Exc	Emb	Exc	Emb.
265.30		^{1723.8} 1603.3	Sta 58+45 to 64+60 Exc. 9726.0 cu
		^{9.1} 2.6 4.2	
		173.8	Class Solid Rock 9726.0 cu
203.97			Haul 710. Ex alongside for
		S. 2.6	
		790 "	4621 N. "
80.45			" 1150 from 54+55 to 58+05 = 1725
		4.7	
		29.0 "	7070 " 62+30 to 66+60 = 2333.1
76.20	0.00		Total Haul 2505.6
		34.8	3.3
49.11	17.70		
		20	
		38.6	12.8
34.32	9.90		Sta 60+10 to 60+90
		41.3	5.8 Emb 22.4 cu.
54.96	2.60		made from cut -
		46.9	0.5
113.76	0.00		22.4
		52.3	was
168.52			
		248.1	
367.36		2153.1	

Sta Grade

L

C

R

61+50

+34.0

16.5

+24.4

+18.0

12.5

Boulders

^{4.0x4.0x7.0}^{3.0x3.0x6.0}^{3.0x3.0x6.0}^{3.0x3.0x6.0}

= 10.1

+46.0

19.5

+31.0

+22.6

13.7

+65

-2.86

+80

+47.4

19.9

+33.4

+25.2

14.3

61+82.7

5624.82

Boulders

^{3.0x3.0x6.0}^{3.0x3.0x9.0}

= 5.0

+50.2

20.6

+38.6

+29.8

15.5

62

-3.16

+30

+51.4

20.9

+41.2

+35.2

16.8

62+38.7

5623.05

+50

+50.0

20.5

+38.6

+31.0

15.8

+75

-3.50

+45.2

19.3

+35.4

+28.0

15.0

+85

+41.0

18.3

+33.0

+25.4

14.4

63

+34.8

16.7

+27.0

+19.8

13.0

63+18.7

5620.28

Boulders

^{3.0x3.0x6.0}^{6.0x6.0x9.0}

= 14.0

+29.8

15.5

+21.0

+13.8

11.5

+20

-3.16

Areas

Cub. yds

Exc Emb. Exc Emb.

561.80

2153.1

430.2

101

375.2

789.00

458.5

861.54

50

695.6

1016.73

1188.6

1123.02

795.4

1024.59

891.0

899.91

315.8

805.15

395.7

619.35

140

399.0

457.90

8127.2

Sta Grade L C R

63+50 $\begin{array}{r} +248 \\ 14.2 \end{array}$ +16.6 $\begin{array}{r} +11.0 \\ 10.8 \end{array}$

63+747.0 $\begin{array}{r} +226 \\ 13.7 \end{array}$ +15.6 $\begin{array}{r} +8.8 \\ 10.2 \end{array}$

+75

64 $\begin{array}{r} +246 \\ 14.2 \end{array}$ +20.4 $\begin{array}{r} +5.2 \\ 9.3 \end{array}$

+15 $\begin{array}{r} +19.0 \\ 12.8 \end{array}$ +11.0 $\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+25 $\begin{array}{r} +36 \\ 8.9 \end{array}$ 0.0 $\begin{array}{r} -11.6 \\ 23.0 \end{array}$

+50 $\begin{array}{r} +1.0 \\ 8.3 \end{array}$ $\begin{array}{r} 0.0 \\ 4.0 \end{array}$ -5.5 $\begin{array}{r} -30.0 \\ 48.3 \end{array}$

+60 $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ -4.4 $\begin{array}{r} -32.2 \\ 51.3 \end{array}$

+75 $\begin{array}{r} -4.6 \\ 13.3 \end{array}$ -11.6 $\begin{array}{r} -36.0 \\ 56.5 \end{array}$

65 $\begin{array}{r} -7.0 \\ 16.6 \end{array}$ -17.4 $\begin{array}{r} -41.8 \\ 64.5 \end{array}$

+25 $\begin{array}{r} -11.6 \\ 23.0 \end{array}$ -26.6 $\begin{array}{r} -33.0 \\ 46.0 \end{array}$ $\begin{array}{r} -50.2 \\ 76.0 \end{array}$

Areas		Cub. Yds.	
Exc	Emb.	Exc	Emb.
350.70		8127.2	449.2
		306.8	
312.02		310.6	
358.90		152.6	
190.40	0.00	37.9	5.0
14.40	40.60	7.6	134.0
2.00	248.82	0.2	9.11
0.00	243.16	9392.1	
		333.9	54.
		9726.0	219.5
	546.94	658.9	
	876.37	976.8	
1233.40		2085.3	

	Sta	Grade	L	C	R
6	65+50		$\begin{array}{r} -238 \\ \hline 39.7 \end{array}$	-332	$\begin{array}{r} -526 \\ \hline 60.0 \end{array}$ $\begin{array}{r} -67.0 \\ \hline 99.1 \end{array}$

6	+75		$\begin{array}{r} -26.0 \\ \hline 42.8 \end{array}$	-348	$\begin{array}{r} -76.6 \\ \hline 112.3 \end{array}$
---	-----	--	---	------	--

6	66		$\begin{array}{r} -30.6 \\ \hline 49.1 \end{array}$	-442	$\begin{array}{r} -76.6 \\ \hline 112.3 \end{array}$
---	----	--	---	------	--

	+25		$\begin{array}{r} -32.8 \\ \hline 52.1 \end{array}$	-478	$\begin{array}{r} -62.6 \\ \hline 93.1 \end{array}$
--	-----	--	---	------	---

	+27	Box Culvert $2 \times 2\frac{1}{2} \times 144$			
	+50		$\begin{array}{r} -27.4 \\ \hline 44.7 \end{array}$	-418	$\begin{array}{r} -64.4 \\ \hline 95.6 \end{array}$

	+75		$\begin{array}{r} -20.0 \\ \hline 34.5 \end{array}$	-314	$\begin{array}{r} -56.8 \\ \hline 85.1 \end{array}$
--	-----	--	---	------	---

	67		$\begin{array}{r} -13.0 \\ \hline 24.9 \end{array}$	-222	$\begin{array}{r} -27.2 \\ \hline 44.4 \end{array}$
--	----	--	---	------	---

	+20		$\begin{array}{r} -5.6 \\ \hline 14.7 \end{array}$	-113	$\begin{array}{r} -18.8 \\ \hline 32.9 \end{array}$
--	-----	--	--	------	---

6	+50		$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$	-2.0	$\begin{array}{r} -16.0 \\ \hline 29.0 \end{array}$
---	-----	--	--	------	---

	+67+70		$\begin{array}{r} +6.0 \\ \hline 9.5 \end{array}$	+3.0	$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$
--	--------	--	---	------	--

Areas		Cub. Yds	
Exc.	Emb.	Exc.	Emb.
		2085.3	
2569.15		1760.4	866415867+90
		2605.1	Emb'd 21200.0 @ 4.
3057.84			14380.0 made from
		3240.7	Pits & swell on
3942.14			borrowed material
		3586.3	balance 6820.0 made
3804.18			from measured Pits
		3267.5	60+90-64+25267+45-
3253.57			70+60, See Page 73
		2500.0	Class L.R. 432.3 @ 4.
2146.52			" S.R. 6387.7 "
		1415.0	Hand 19313.
909.93			
		468.2	1080 3600 1400
354.34			63877 462 7070 3327
		248.5	7246 4361 2157
000	93.00		
		124	230
50.25	000		21200.0

	L	C	R
Sta Grade			
6. 67+85	+120 11.0	+6.4	+3.2 8.8

6.			
68+05	+21.4 13.4	+14.6	+9.0 10.3

6			
+20	+29.4 15.4	+21.2	+14.2 11.6

Boulder 3.0 x 4.0 x 5.0 = 2.2

+40	+34.8 16.7	+27.4	+21.4 13.4
-----	---------------	-------	---------------

Boulders $\frac{4.0 \times 6.0 \times 10.0}{3.0 \times 5.0 \times 8.0} = 24.3$

+65	+40.0 18.0	+31.4	+25.6 14.4
-----	---------------	-------	---------------

Boulders $\frac{3 \times 3 \times 6}{4 \times 7 \times 8} = 54.8$

68+85	+45.0 19.3	+29.6 +35.6	+2.6 15.4
-------	---------------	----------------	--------------

68+93.7 5603.64 Boulder 6.0 x 10.0 x 16.0 = 35.5

69+10	+44.2 19.1	+28.0 +35.0	+2.0 15.0
-------	---------------	----------------	--------------

Boulder 6.0 x 6.0 x 10.0 = 13.3

+25	+42.0 18.5	+26.4 +33.6	+2.4 14.6
-----	---------------	----------------	--------------

Boulder 8.0 x 10.0 x 16.0 = 47.4

6. +49.1 Back=	+39.2	+24.0	
+44.0 Ford	17.8	+31.6	14.0

+ 69+60	+34.6 16.7	+23.0 +27.6	+2.0 13.8
---------	---------------	----------------	--------------

Areas.		Cub. yds	
Exc	Emb.	Exc.	Emb.
124.16		¹²⁴ 484	
		155.1	
294.61			
		209.8	
460.60		22	
		406.6	
637.17			
		24.3	
		651.9	
771.08			
		54.8	
		624.9	
916.06			
		35.5	
		834.1	
885.55			
		13.3	
		476.5	
829.68			
		47.4	
		724.9	
755.24			
		416.8	
651.30		⁴⁷³ 8.9	

W.H.

Sta	Grade	L	C	R
6. 69+70		$\frac{+32.6}{16.2}$	$\frac{+24.6}{7.0}$	$\frac{+18.6}{12.7}$

6.		$\frac{+25.6}{14.4}$	$+19.2$	$\frac{+15.0}{11.8}$
+85				

Boulder $4.0 \times 5.0 \times 6.0 = 4.4$

6 70		$\frac{+20.4}{13.1}$	$+15.0$	$\frac{+11.4}{10.9}$
------	--	----------------------	---------	----------------------

Boulders $\frac{3.0 \times 3.0 \times 3.0}{3.0 \times 4.0 \times 6.0} = 3.7$

+20		$\frac{+13.0}{11.3}$	$+10.6$	$\frac{+8.2}{10.1}$
-----	--	----------------------	---------	---------------------

Boulders $\frac{3.0 \times 3.0 \times 6.0}{3.0 \times 4.0 \times 9.0} = 6.0$

+35		$\frac{+12.2}{11.1}$	$+8.2$	$\frac{+3.6}{8.9}$
-----	--	----------------------	--------	--------------------

-2.90

+50		$\frac{+4.6}{9.2}$	$+3.5$	$\frac{0.0}{8.0}$
-----	--	--------------------	--------	-------------------

Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

+60		$\frac{0.0}{8.0}$	-1.6	$\frac{0.0}{6.0} \quad \frac{0.0}{8.0}$
-----	--	-------------------	--------	---

Boulder $3.0 \times 3.0 \times 3.0 = 10 \text{ c.y.}$

+70		$\frac{-2.0}{10.0}$	-4.2	$\frac{-14.4}{26.8}$
-----	--	---------------------	--------	----------------------

6 +90		$\frac{-2.4}{10.6}$	-7.4	$\frac{-22.6}{29.0} \quad \frac{-33.2}{52.7}$
-------	--	---------------------	--------	---

+ 71		$\frac{-3.0}{11.5}$	-8.4	$\frac{-11.8}{12.0} \quad \frac{-17.4}{30.9}$
------	--	---------------------	--------	---

Areas		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
581.27		4738.9 228.2	Sta 67+50 to 70+60 Cur. 5978.1 @4.
		276.4	Class Material in Sections
413.92		10% Loose Rock	580.3 @4
		4.4	
		200.3	Balance Cut S. R. 5397.8 "
307.20			Haul 327. To. free
		37	
		187.1	" 3102 N "
198.22			" 3000-68+75 to 66+55 = 6600.
		6.0	
		95.24	" 650-69+80 to 71+65 = 1200.
145.20			" 1516-64+35 to 75+20 = 8868.
		53.8	Total Haul. 16670.
48.50	0.00		
		2.0	
		6.0	14
0.00	11.20		Sta 70+50 to 71+95
		1.0	27.0 Emb. 1175.6 @4.
		5803.2	
134.68		174.9	SG. Made from Cut-
		5918.1	
		1925	
385.23			
		117.3	
248.01		338.2	

Sta	Grade	L	C	R
6	71+10	$\frac{-32}{11.8}$	-6.2	$\frac{-66}{16.1}$

6	+12	Boulders $\frac{30 \times 30 \times 30}{40 \times 40 \times 40} = 3.4$		
	+20	Box Culvert $\frac{00}{8.0}$	$2 \times 2 \frac{1}{2} \times 21$ 0.0	$\frac{00}{8.0}$

6	+25	$\frac{+40}{9.0}$	+0.4	$\frac{00}{8.0}$
---	-----	-------------------	------	------------------

	+40	$\frac{+36}{8.9}$	$\frac{00-13.0}{+0.870}$	$\frac{-16.0}{10.0}$	$\frac{-96}{19.0}$	$\frac{-76}{20.2}$
--	-----	-------------------	--------------------------	----------------------	--------------------	--------------------

	+45	$\frac{+24}{8.6}$	$\frac{00-17.0}{+2.230}$	$\frac{-17.0}{14.0}$	$\frac{-22.8}{38.4}$
--	-----	-------------------	--------------------------	----------------------	----------------------

	+50	$\frac{00}{8.0}$	$\frac{-19.0}{-0.8}$	$\frac{-32.0}{16.0}$	$\frac{-51.0}{51.0}$
--	-----	------------------	----------------------	----------------------	----------------------

	+55	$\frac{-14}{9.1}$	$\frac{-19.0}{-9.2}$	$\frac{-35.4}{16.0}$	$\frac{-55.7}{55.7}$
--	-----	-------------------	----------------------	----------------------	----------------------

	+75	$\frac{-40}{12.5}$	-9.8	$\frac{-39.0}{60.6}$
--	-----	--------------------	------	----------------------

6	+85	$\frac{-40}{12.5}$	-7.2	$\frac{-9.6}{12.0}$	$\frac{-39.8}{61.7}$
---	-----	--------------------	------	---------------------	----------------------

7	71+90	$\frac{00}{8.0}$	-2.6	$\frac{-76}{17.5}$
---	-------	------------------	------	--------------------

Areas		Cub. Yds	
Exc.	Emb.	Exc.	Emb.
	120.79		338.4 68.3

3.4 224

0.00 0.00

Sta 71420 to 71+50

1.8

Exp 33.7 C.Y. S.R.

19.40 0.00

Have opposite from

10.5 26.1

18.36 141.00

3.8 33.5

22.36 221.10

1.4 529

0.00 350.10

20.9

17.8 50.

33.7

77.8

490.21

370.0

508.69

149.5

298.86

33.2

0.00 59.75

37
1175.6

Sta Grade

L

C

R

6 71+95

+11.0
9.0

+3.2

0.0
8.0

6

72

+4.2
9.1

+8.0
6.0

+9.0
2.4
8.6

Boulders $\frac{12.0 \times 16.0 \times 16.0}{6.0 \times 9.0 \times 18.0} = 152.8$
 $3.0 \times 3.0 \times 9.0$

6 +10

+14.0
11.5

+12.0

+9.2
10.3

+20

+27.0
14.8

+18.0
6.0

+15.0
10.7
10.7

Boulders $\frac{3.0 \times 3.0 \times 6.0}{3.0 \times 3.0 \times 6.0} = 4.0$

+40

+24.2
14.1

+18.4

+14.6
11.7

Boulders $\frac{3.0 \times 3.0 \times 6.0}{4.0 \times 5.0 \times 8.0} = 7.9$

+50

+22.2
13.6

+15.6

+10.6
10.7

-2.90

+65

+27.0
14.8

+12.4

+15.4
11.9

+8.0

+11.5
10.9

+8.4

+6.2
9.6

Boulder $3.0 \times 3.0 \times 6.0 = 2.0$

6 73

+14.0
11.5

+11.4

+5.0
9.3

7 +10

+14.8
11.7

+10.4

+5.4
9.4

Areas		Cub. Yds.	
Exc	Emb.	Exc.	Emb.

43.20	0.0	27	
		slip 0.1	
		150	

118.30		slip 15.2	
		1528	
		63.3	

223.60		S. 25.3	
		1129	

386.15		S. 48.0	
		40	
		2884	

392.56		S. 29.1	
		79	
		132.1	

320.74		S. 71.1	
		182.2	

335.14		S. 59.6	
		136.7	

156.90		S. 43.1	
		20	
		130.2	

194.56		S. 22.7	
		71.3	

190.52		161.57	
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mm

	Sta	Grade	L	C.	R
6	73	+20	$\frac{+15.4}{11.9}$	$\frac{+12.0}{6.0}$	$\frac{+8.4}{10.1}$

6		+30	$\frac{+14.8}{11.7}$	$\frac{+9.6}{8.0}$	$\frac{+8.6}{10.2}$
---	--	-----	----------------------	--------------------	---------------------

6		+45	$\frac{+13.6}{11.4}$	$\frac{+9.0}{9.5}$	$\frac{+5.8}{9.5}$
---	--	-----	----------------------	--------------------	--------------------

		+50	$\frac{+23.8}{14.0}$	$\frac{+24.6}{8.0}$	$\frac{+9.8}{4.0+8.4}$	$\frac{+5.0}{9.3}$
--	--	-----	----------------------	---------------------	------------------------	--------------------

		+55	$\frac{+24.0}{14.0}$	$\frac{+25.0}{5.0}$	$\frac{+10.0}{4.0+8.4}$	$\frac{+4.8}{9.2}$
--	--	-----	----------------------	---------------------	-------------------------	--------------------

		+65	$\frac{+20.2}{13.1}$	$\frac{+23.0}{8.0}$	$\frac{+11.0}{7.0+7.8}$	$\frac{+3.0}{8.8}$
--	--	-----	----------------------	---------------------	-------------------------	--------------------

		+75	$\frac{+22.6}{13.7}$	$\frac{+24.0}{7.0}$	$\frac{+9.0}{5.0+7.2}$	$\frac{+1.2}{8.3}$
--	--	-----	----------------------	---------------------	------------------------	--------------------

		+85	$\frac{+18.0}{12.5}$	$\frac{+7.0}{6.0}$	$\frac{+3.3}{8.8}$	
--	--	-----	----------------------	--------------------	--------------------	--

6	74		$\frac{+11.5}{10.9}$	$\frac{+8.0}{8.0}$	$\frac{+3.6}{8.9}$	
---	----	--	----------------------	--------------------	--------------------	--

7	+10		$\frac{+10.4}{10.6}$	$\frac{+8.4}{8.0}$		
---	-----	--	----------------------	--------------------	--	--

Areas	Cub. yds		
Exc	Emb.	Exc	Emb.
239.79	S.	1615.7 23.9 79.7	
	S.	24.9 86.0	
224.39	S.	32.1 110.0	
1716.5	S.	5.1 37.9	
238.06	S.	2.1 46.2	
260.64	S.	11.1 2.0 83.0	
187.77	S.	14.9 71.8	
199.88	S.	13.3 69.3	
174.55	S.	19.4 96.4	
172.32	S.	6.5 54.1	
119.72		2505.4	

WDR

Sta	Grade	L	C	R
6	74+20	$\frac{+6.8}{9.7}$	+26	$\frac{0.0}{8.0}$
6		Boulders $\frac{3.0 \times 3.0 \times 9.0}{3.0 \times 3.0 \times 6.0} = 7.0$ $\frac{+9.4}{10.4}$		
	+35	$\frac{+9.4}{10.4}$	+36	$\frac{+0.6}{8.2}$
	+50	$\frac{+4.4}{9.1}$	+38	$\frac{+1.8}{8.5}$
	+60	$\frac{+1.8}{8.5}$	0.0	$\frac{0.0}{8.0}$
	+70	$\frac{0.0}{8.0}$	-96 -280 -35.8	-48 15.0 21.0 56.2
	+75	$\frac{-3.6}{12.4}$	-5.0 $\frac{-8.4}{12.0}$ -278 -40.0	20.0 62.0
	+80	$\frac{-4.0}{12.5}$	-84 $\frac{-22.0}{2.0}$ -282 -35.8	13.0 20.0 56.2
	74+90	$\frac{-20.2}{34.8}$	-436 $\frac{-42.0}{40.0}$ -59.0	50.0 88.1
6	75	$\frac{-19.6}{34.1}$	-41.0 $\frac{-56.0}{30.0}$ -62.2 -70.8	85.0 104.3
	+10	$\frac{-19.2}{33.4}$	-66.0 $\frac{-64.6}{6.0}$ -77.2	85.0 113.2

-290

5585.89

-1.88

Areas

Cub. Yds

Exc Emb.

Exc Emb.

50.21

2505.4
2.1
31.5
3.70

7190674470 Exc 2806.2 cu. y.

34.4 Class Slips L. Rock 484.2

73.48

4.7

Balance S. " 2322.0"

36.6 Haul 444.6 M. free

58.24

5.

" 2200.72 + 656.75 = 5170.

Slips Classed & R
121 account so much wasted

7.20

0.00

5.

1.7

09

59.5

000

482.20

2644.6
161.6 S.G.
2806.2

99.5

59260

119.5

69812

488.9

194202

816.7

246791

1097.3

345710

2681.4

Sta grade

L.

C.

R

75+95

$$\begin{array}{r} +6.8 \\ 9.7 \end{array}$$

$$\begin{array}{r} +6.0 \\ +5.6 \\ \hline 7.0 \end{array} \quad \begin{array}{r} 0.0 \\ 8.0 \end{array}$$

76+05

$$\begin{array}{r} +10.6 \\ 10.7 \end{array}$$

$$\begin{array}{r} +5.4 \\ +7.6 \\ \hline 9.4 \end{array}$$

+15

$$\begin{array}{r} +14.3 \\ \hline 11.6 \end{array} \quad \begin{array}{r} +12.2 \\ \hline 2.0 \end{array}$$

$$\begin{array}{r} +6.2 \\ +3.1 \\ \hline 8.8 \end{array}$$

+35

$$\begin{array}{r} +17.6 \\ 12.4 \end{array}$$

$$\begin{array}{r} +7.8 \\ +3.6 \\ \hline 8.9 \end{array}$$

+50

$$\begin{array}{r} +15.4 \\ 11.9 \end{array}$$

$$\begin{array}{r} +9.2 \\ +4.8 \\ \hline 9.2 \end{array}$$

+70

$$\begin{array}{r} +17.8 \\ 12.5 \end{array} \quad \begin{array}{r} +18.0 \\ 9.0 \end{array} \quad +12.2$$

$$\begin{array}{r} +3.6 \\ 8.9 \end{array}$$

+75

$$\begin{array}{r} +18.0 \\ 12.5 \end{array} \quad \begin{array}{r} +18.0 \\ 6.0 \end{array} \quad \begin{array}{r} +12.0 \\ 5.0 \end{array} \quad +12.0$$

$$\begin{array}{r} +9.0 \\ 10.3 \end{array}$$

76+90

$$\begin{array}{r} +17.8 \\ 12.5 \end{array} \quad \begin{array}{r} +14.6 \\ 7.0 \end{array} \quad \begin{array}{r} +10.8 \\ 4.0 \end{array} \quad +9.8$$

$$\begin{array}{r} +4.0 \\ 9.0 \end{array}$$

Boulders $\left\{ \begin{array}{l} 3 \times 6 \times 9 \\ 2 \times 3 \times 10 \\ 3 \times 6 \times 9 \end{array} \right\} = 14.2 \text{ cy.}$

77+05

$$\begin{array}{r} +16.8 \\ 12.2 \end{array}$$

$$\begin{array}{r} +12.8 \\ +12.8 \\ \hline 14.0 \end{array} \quad \begin{array}{r} +4.0 \\ 9.0 \end{array}$$

+20

$$\begin{array}{r} +16.8 \\ 12.2 \end{array}$$

$$\begin{array}{r} +3.2 \\ +10.4 \\ \hline 8.8 \end{array}$$

Areas		Cub yds	
Exc	Emb	Exc	Emb
97.96	000	5/1p 1.8	9286.4
		20.7	24.2
		3.3	9310.6
		44.1	

140.38

S. 3.7
55.5

159.54

S. 5.8
121.3

167.87

S. 7.5
96.0

177.86

S. 8.5
150.0

227.19

S. 1.9
44.1

249.30

S. 16.0
121.6

188.45

S. 34.0
14.2
118.0

WAD

236.48

S. 31.4
118.2

189.20

1018.7

Sta Grade Boulder $\begin{matrix} L & C & R \end{matrix}$ $3 \times 3 \times 3 = 1.0 \text{ cy.}$

77 +35

$\begin{matrix} +122 \\ 11.1 \end{matrix}$ $\begin{matrix} +80 \\ 6.0 \end{matrix}$ $+62$ $\begin{matrix} +20 \\ 8.5 \end{matrix}$

+50

$\begin{matrix} +110 \\ 10.8 \end{matrix}$ $+64$ $\begin{matrix} +54 \\ 5.0 \end{matrix}$ $\begin{matrix} +0.5 \\ 8.1 \end{matrix}$

Boulders $\left\{ \begin{matrix} 3 \times 6 \times 6 \\ 3 \times 6 \times 6 \end{matrix} \right\} = 80 \text{ cy.}$

+75

$\begin{matrix} +112 \\ 10.8 \end{matrix}$ $+80$ $\begin{matrix} +16 \\ 8.4 \end{matrix}$

77 +95

$\begin{matrix} +144 \\ 11.6 \end{matrix}$ $+114$ $\begin{matrix} +50 \\ 9.3 \end{matrix}$

Boulders $\left\{ \begin{matrix} 3 \times 3 \times 6 \\ 3 \times 3 \times 3 \end{matrix} \right\} = 3.0 \text{ cy.}$

78 +15

$\begin{matrix} +10.0 \\ 10.5 \end{matrix}$ $+7.8$ $\begin{matrix} +6.8 \\ 9.7 \end{matrix}$

+35

$\begin{matrix} +8.8 \\ 10.2 \end{matrix}$ $+4.4$ $\begin{matrix} +2.4 \\ 8.6 \end{matrix}$

+50

$\begin{matrix} +6.0 \\ 9.5 \end{matrix}$ $+32$ $\begin{matrix} 0.0 \\ 8.0 \end{matrix}$

+65

$\begin{matrix} +1.8 \\ 8.5 \end{matrix}$ 0.0 $\begin{matrix} -9.0 \\ 19.4 \end{matrix}$

+75

$\begin{matrix} 0.0 \\ 8.0 \end{matrix}$ -3.0 $\begin{matrix} -23.8 \\ 39.7 \end{matrix}$

78 +90

$\begin{matrix} +4.2 \\ 9.1 \end{matrix}$ $+5.0$ $\begin{matrix} 0.0 \\ 8.0 \end{matrix}$

88.1

Areas	Cub. Yds	Exc Emb.	Exc Emb.
109.55	5. 1.6 1.0 83.0		
117.18	5. 4.9 8.0	Class Slip Lo Rock 173.0	
128.00	5. 6.4	113.5 Balance S. R. 1729.5	
196.73	5. 3.8 3.0 126.9	Nail 438, So for	
145.98	5. 27.8 86.0	120.3 + 1300.7 + 35.75 + 55 = 2340	
86.16	5. 7.7 38.4		
520.00	0.00 5. 1.2 16.4	5.8 Sta 78 + 50 to 78 + 90	
7.20	31.50	Emb 69.0 Cy.	
0.00	0.9 1738.0 154.85 1645.50	34.5 made from Cuts.	
59.55	0.00 11.0	28.7 69.0	Wad

Sta Grade

L

C

R

79

 $\frac{+11.8}{11.0}$ $+13.2$ $\frac{+6.1}{9.5}$

Boulders

 $3 \times 3 \times 3$ $2 \times 3 \times 8$ $= 2.8 \text{ c.y.}$

+25

 $\frac{+14.2}{11.6}$ $+10.2$ $\frac{+6.2}{9.6}$

+50

 $\frac{+13.8}{11.5}$ $+9.8$ $\frac{+5.2}{9.3}$ Boulder $3 \times 6 \times 9 =$ 60 c.y.

+75

 $\frac{+11.4}{10.9}$ $+5.8$ $\frac{+1.8}{8.5}$

80

 $\frac{+11.2}{10.8}$ $+6.2$ $\frac{+2.2}{8.6}$ 88.1
- 1.88

+15

 $\frac{+8.0}{10.0}$ $+4.6$ $\frac{+1.6}{8.4}$

+35

 $\frac{+10.2}{10.6}$ $+5.8$ $\frac{+3.4}{8.9}$ Boulder $3 \times 3 \times 6 =$ 20 c.y.

+70

 $\frac{+9.8}{10.5}$ $+4.6$ $\frac{00}{8.0}$

80 + 90

 $\frac{+8.4}{10.1}$ $+2.8$ $\frac{00}{5.0}$ $\frac{-1.0}{12.5}$ Boulder $2 \times 4 \times 6 =$ 18 c.y.

81 + 10

 $\frac{+8.8}{10.2}$ $+3.8$ $\frac{00}{6.0}$ $\frac{-1.2}{8.7}$

Areas		Cub Yds	
Exc	Emb.	Exc	Emb.
206.90		Slip 3.3 49.4	Sta 78+15 to 84+40 Exc 30183 cu.
		S. 1.9 2.8	183.6 Chas Slip L. Rock 2848 cu.
189.72			Balance Solid " 2733.5 "
		S. 13.3	170.2 Haul 62. So + opposite for
177.92		S. 18.8	" 150 N "
		6.0	132.9 " 628-79+35 to 75+40 = 2481.
109.06		S. 17.0	" 1860-82+85 to 85+35 = 4650.
		103.1	Total Haul 7131.
113.74		S. 5.5	
		54.0	
80.72		S. 5.1	
		71.0	
110.95		2.0	
		124.9	
81.75	0.00		Sta 80+70 to 81+40
		50.5	1.0 Emb 5.9 cu.
54.74	4.00	15.2	made from Cut
		1.8	
		44.7	1.9
65.98	1.20	109.40	2.9

Sta. Grade

L

C

R

81 + 25

$$\begin{array}{r} +8.8 \\ 10.2 \end{array}$$

+2.4

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$
Boulders $3 \times 3 \times 6 = 20 \text{ c.y.}$

+50

$$\begin{array}{r} +5.6 \\ 9.4 \end{array}$$

+2.2

$$\begin{array}{r} 0.0 \\ 5.0 \end{array} \quad \begin{array}{r} -2.2 \\ 10.0 \end{array}$$

+75

$$\begin{array}{r} +5.8 \\ 9.5 \end{array}$$

+1.2

$$\begin{array}{r} 0.0 \\ 6.0 \end{array}$$

$$\begin{array}{r} -3.2 \\ 11.4 \end{array}$$
Boulders $3 \times 3 \times 6 = 5.8 \text{ c.y.}$

+90

$$\begin{array}{r} +6.4 \\ 9.6 \end{array}$$

+3.2

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

82

- 1.88

$$\begin{array}{r} +7.6 \\ 9.9 \end{array}$$

+3.8

$$\begin{array}{r} +1.4 \\ 8.4 \end{array}$$

+15

$$\begin{array}{r} +8.2 \\ 10.1 \end{array}$$

+1.3

$$\begin{array}{r} +2.0 \\ 8.5 \end{array}$$

+30

$$\begin{array}{r} +7.4 \\ 9.9 \end{array}$$

+5.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+50

$$\begin{array}{r} +5.8 \\ 9.5 \end{array}$$

+2.6

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+60

$$\begin{array}{r} +5.8 \\ 9.5 \end{array}$$

+3.4

$$\begin{array}{r} +0.8 \\ 8.2 \end{array}$$

+75

$$\begin{array}{r} +12.8 \\ 11.2 \end{array}$$

+9.8

$$\begin{array}{r} +8.0 \\ 10.0 \end{array}$$

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
		1094.0	2.9
5704	0.00 ^s	44	
	s.	34.2	0.2
		5.9	
		2.0	
		44.1	0.7
3824	2.20		
	s.	9.7	
		32.7	1.8
3250	1.60		
	s.	5.3	
		5.8	
		24.0	0.3
5376	0.00		5.9
	s.	2.9	
		23.1	
7077			
	s.	8.1	
		42.1	
8079			
	s.	10.4	
		43.1	
7435			
	s.	8.5	
		44.5	
45.95			
	s.	2.1	
		19.0	
5649			
	s.	11.7	
		67.7	
187.08		1545.3	

Sta. Grade

L

C.

R.

82+85

$$\begin{array}{r} 114.2 \\ 11.6 \end{array}$$

+11.4

$$\begin{array}{r} +9.6 \\ 10.4 \end{array}$$

83

$$\begin{array}{r} +15.2 \\ 11.8 \end{array}$$

+10.6

$$\begin{array}{r} +8.6 \\ 10.2 \end{array}$$

 Boulders $\begin{array}{l} 3 \times 3 \times 6 \\ 3 \times 6 \times 9 \end{array}$ $\begin{array}{l} 3 \times 3 \times 6 \\ 3 \times 3 \times 6 \end{array}$ = 12.0 cy.

+20

$$\begin{array}{r} +17.2 \\ 12.3 \end{array}$$

+12.4

$$\begin{array}{r} +11.0 \\ 10.8 \end{array}$$

+35

$$\begin{array}{r} +18.2 \\ 12.6 \end{array}$$

+16.6

$$\begin{array}{r} +12.8 \\ 11.2 \end{array}$$

 Boulders $\begin{array}{l} 3 \times 3 \times 6 \\ 6 \times 6 \times 6 \end{array}$ $\begin{array}{l} 6 \times 6 \times 9 \\ 3 \times 3 \times 6 \end{array}$ = 24.0 cy.

+50

$$\begin{array}{r} +15.3 \\ 11.8 \end{array}$$

+12.2

$$\begin{array}{r} +12.2 \\ 11.1 \end{array}$$

+75

$$\begin{array}{r} +8.0 \\ 10.0 \end{array}$$

+5.2

$$\begin{array}{r} +4.7 \\ 9.2 \end{array}$$

+85

$$\begin{array}{r} +6.4 \\ 9.6 \end{array}$$

+1.5

$$\begin{array}{r} +1.7 \\ 8.4 \end{array}$$

84

5569.00

$$\begin{array}{r} +8.4 \\ 10.1 \end{array}$$

+5.0

$$\begin{array}{r} +2.0 \\ 8.5 \end{array}$$

+10

$$\begin{array}{r} +9.2 \\ 10.3 \end{array}$$

+4.5

$$\begin{array}{r} +1.0 \\ 8.3 \end{array}$$

 Boulders $\begin{array}{l} 3 \times 3 \times 6 \\ 3 \times 3 \times 6 \end{array}$ $\begin{array}{l} 3 \times 3 \times 3 \\ 3 \times 3 \times 6 \end{array}$ = 7.0 cy.

+25

$$\begin{array}{r} +4.0 \\ 9.0 \end{array}$$

+1.4

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

Areas. Cub. Yds.
Exc. Emb. Exc. Emb.

220.60

s. 154.53
10.7
75.5
s. 11.7
120.1

211.80

s. 30.5
12.0
173.3

256.02

s. 24.7
160.4

321.54

s. 21.6
24.0
158.7

249.69

s. 19.4
162.2

100.72

s. 2.8
27.1

45.90

s. 2.8
37.2

88.10

s. 0.5
31.6

82.65

7.0

30.7

27.90

0.00

52
2700.0
318.350.
3018.3

Sta.	Grade	L	C.	R
84+40		$\frac{0.0}{8.0}$	-2.0	$\frac{-7.0}{16.6}$
+60		$\frac{-3.5}{11.8}$	-6.2	$\frac{-10.4}{21.3}$
+75		$\frac{-6.2}{15.6}$	-10.2	$\frac{-11.6}{10.0} \quad \frac{-11.8}{23.3}$
85		$\frac{-11.4}{22.7}$	-13.8	$\frac{-15.2}{14.0} \quad \frac{-14.6}{27.1}$
+25	-15.0	$\frac{-14.4}{26.8}$	$\frac{-18.0}{10.0} \quad -18.0$	$\frac{-20.8}{18.0} \quad \frac{-20.0}{34.5}$
+50		$\frac{-14.6}{27.1}$	-19.2	$\frac{-24.2}{40.3}$
+75		$\frac{-11.8}{23.3}$	-12.6	$\frac{-21.0}{20.0} \quad \frac{-23.2}{38.9}$
86		$\frac{-11.0}{22.1}$	-13.0	$\frac{-25.6}{30.0} \quad \frac{-32.0}{51.0}$
+25		$\frac{-7.8}{17.7}$	$\frac{-9.0}{10.0} \quad -8.6$	$\frac{-21.4}{20.0} \quad \frac{-32.2}{51.3}$
+40		$\frac{-6.4}{15.8}$	$\frac{-6.8}{10.0} \quad -14.0$	$\frac{-22.8}{30.0} \quad \frac{-27.0}{44.2}$

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.

0.00	49.10	5.2	9.1
------	-------	-----	-----

74.2

151.26

Sta 84 + 15 188.7 + 60

116.9 Emb 4868.1 C.Y.

269.70

4679.3 made

332.3 from Cuts & swell

447.99

on borrowed material

540.9 balance 188.8 from

720.40

Cut 8 + 40 - 88

695.9 See Page 74

782.84

Class borrow

627.1

 $\frac{1}{2}$ Lo Rock 94.4 lbs. $\frac{1}{2}$ S. " 94.4 "

571.74

571.1 Haul 359.

661.95

554.9

W.M.

536.56

292.8

3815.2

517.50

Sta. Grade

L

C

R

86 +50

$$\begin{array}{r} -6.2 \\ 15.6 \end{array}$$

$$\begin{array}{r} -17.0 \\ -6.8 \quad 6.0 \end{array}$$

$$\begin{array}{r} -26.4 \\ 43.3 \end{array}$$

+75

$$\begin{array}{r} -5.2 \\ 14.2 \end{array}$$

-8.0

$$\begin{array}{r} -19.8 \\ 34.2 \end{array}$$

87

$$\begin{array}{r} -3.2 \\ 11.4 \end{array}$$

-7.6

$$\begin{array}{r} -15.2 \\ 27.9 \end{array}$$

+20

$$\begin{array}{r} -6.4 \\ 15.8 \end{array}$$

$$\begin{array}{r} -11.0 \\ -8.0 \quad 12.0 \end{array}$$

$$\begin{array}{r} -9.4 \\ 19.9 \end{array}$$

+145

$$\begin{array}{r} 6.0 \\ 8.0 \end{array}$$

-2.2

$$\begin{array}{r} -5.0 \\ 13.9 \end{array}$$

+60

$$\begin{array}{r} 13.0 \\ 8.8 \end{array}$$

+1.1

$$\begin{array}{r} 6.0 \\ 8.0 \end{array}$$

88

$$\begin{array}{r} +12.0 \\ 11.0 \end{array}$$

+10.0

$$\begin{array}{r} +7.2 \\ 9.8 \end{array}$$

+25

$$\begin{array}{r} +19.0 \\ 12.8 \end{array}$$

+15.0

$$\begin{array}{r} +12.0 \\ 11.0 \end{array}$$

+50

$$\begin{array}{r} +22.0 \\ 13.5 \end{array}$$

+21.0

$$\begin{array}{r} +17.2 \\ 12.3 \end{array}$$

+60

$$\begin{array}{r} +20.6 \\ 13.2 \end{array}$$

+21.2

$$\begin{array}{r} +18.2 \\ 12.6 \end{array}$$

-15.0

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	476.39		381.54 184.0
			350.7
	281.10		
			229.1
	213.74		
			160.5
	219.55		
			120.9
0.00	41.59		
		3.9	7.7
21.24	0.00		486.81
	S.	30.8	
		149.6	
180.80			
	S.	75.4	
		223.7	
302.50			
	S.	81.0	
		338.0	
427.70			
	S.	28.0	
		158.6	
428.68		1089.1	

WMA

Sta. Grade

$$\begin{array}{rcl} \text{Boulders } 3 \times 3 \times 6 - 3 \times 3 \times 6 & = & 40 \text{ c.y.} \\ \frac{+12.0}{11.0} & +15.4 & \frac{+16.0}{12.0} \end{array}$$

88+75

$$\text{Boulders } 3 \times 6 \times 6 = 40 \text{ c.y.}$$

+90

$$\frac{+5.7}{9.4} \quad +9.0 \quad \frac{+13.8 +13.4}{7.0 \quad 11.4}$$

89

$$\frac{+2.6}{8.7} \quad +4.0 \quad \frac{+9.0}{10.3}$$

+10

$$\frac{0.0}{8.0} \quad +0.6 \quad \frac{+2.4}{8.6}$$

+15

$$\frac{-3.2}{11.4} \quad -1.2 \quad \frac{0.0}{8.0}$$

+35

$$\frac{-9.8}{20.6} \quad -8.8 \quad \frac{-10.2}{21.0}$$

+55

$$\frac{-14.4}{26.8} \quad -18.0 \quad \frac{-23.0}{38.6}$$

+65

$$\frac{-13.4}{25.5} \quad -16.0 \quad \frac{-46.0}{70.3}$$

+80

$$\frac{-8.0}{18.0} \quad \frac{-8.6}{9.0} \quad -13.6 \quad \frac{-58.0}{86.8}$$

89+95

$$\frac{-4.0}{12.5} \quad -7.0 \quad \frac{-61.0}{90.9}$$

-1.50

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.
289.10		199.4	1645.3 @ y.
		19.2	Class Ships Lo Rock 269.9 "
18196		130.8	Balance Solid + 1375.4 "
8440		49.3	Haul 220.4 So far
		1330	from 88+50 to 86+40 = 2793
1458	0.00	18.3	
		0.9	1.4
0.00	22.84	1550.4	
		949.54	
		1645.3	
		102.0	
25260			Sta 89+10 to 91+50
		360.0	Emb 2115.4 @ y.
719.50			made from 2115.4
		313.7	
974.30		527.2	
923.84		420.3	
589.40		1724.6	

Sta. Grade

L

C

R

90

$$\begin{array}{r} -3.3 \\ 11.6 \end{array}$$

$$\begin{array}{r} -24.8 \\ -8.6 \quad 34.0 \end{array}$$

$$\begin{array}{r} -22.2 \\ 37.5 \end{array}$$

+15

$$\begin{array}{r} -2.4 \\ 10.3 \end{array}$$

-6.0

$$\begin{array}{r} -10.8 \\ 21.8 \end{array}$$

+25

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

0.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

Bookers

3x3x6

3x3x6

= 4.0 c.y.

+35

$$\begin{array}{r} +4.4 \\ 9.1 \end{array}$$

0.0

$$\begin{array}{r} -14.8 \\ 27.4 \end{array}$$

+60

-1.50

$$\begin{array}{r} +7.0 \\ 9.8 \end{array}$$

+2.4

$$\begin{array}{r} 0.0 \\ 6.0 \end{array}$$

$$\begin{array}{r} -2.0 \\ 9.8 \end{array}$$

+80

$$\begin{array}{r} +4.6 \\ 9.2 \end{array}$$

0.0

$$\begin{array}{r} -10.2 \\ 21.0 \end{array}$$

91

$$\begin{array}{r} +4.6 \\ 9.2 \end{array}$$

0.0

-1.6

$$\begin{array}{r} -10.1 \\ 20.9 \end{array}$$

+25

$$\begin{array}{r} +5.0 \\ 9.3 \end{array}$$

0.0

-1.4

$$\begin{array}{r} -7.0 \\ 16.6 \end{array}$$

+40

$$\begin{array}{r} +6.1 \\ 9.7 \end{array}$$

+1.0

$$\begin{array}{r} 0.0 \\ 4.0 \end{array}$$

$$\begin{array}{r} -4.2 \\ 12.8 \end{array}$$

+50

$$\begin{array}{r} +8.8 \\ 10.2 \end{array}$$

+5.0

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
	37293		1724.6
			89.1
			143.2
	142.50		
			26.4
0.00	0.00	slip	
		1.4	
		4.0	
		2.2	6.4
17.60	51.80		
	5	11.1	
		29.9	24.4
46.96	1.00		
	5	6.0	
		24.2	13.6
18.40	35.70		
	5	4.4	
		11.9	33.1
13.80	53.67		
	5	14.2	
		14.5	41.9
17.50	36.82		
	5	9.6	
		14.2	11.9
33.65	6.30		
	5	3.9	
		21.2	0.8
80.70	0.00	172.7	2115.4

Sta. Grade

	L	C	R.
91+60	$\frac{+12.4}{11.1}$	+6.2	$\frac{+3.6}{8.9}$

+75	$\frac{+15.0}{11.8}$	+8.2	$\frac{+5.0}{9.3}$
-----	----------------------	------	--------------------

+90	$\frac{+17.8}{12.5}$	+12.7	$\frac{+8.4}{10.1}$
-----	----------------------	-------	---------------------

92	$\frac{+21.0}{13.3}$	+15.4	$\frac{+8.8}{10.2}$
----	----------------------	-------	---------------------

+10	$\frac{+25.6}{14.4}$	+24.4	$\frac{+20.0}{7.0}$ $\frac{+10.0}{10.5}$
-----	----------------------	-------	--

+25	$\frac{+34.0}{16.5}$	+16.0	$\frac{+11.0}{10.8}$
-----	----------------------	-------	----------------------

Boulders $\frac{3 \times 3 \times 6}{3 \times 3 \times 6} = 4.0 \text{ c.y.}$

+35	$\frac{+24.5}{14.1}$	+16.2	$\frac{+9.6}{10.4}$
-----	----------------------	-------	---------------------

+50	$\frac{+19.2}{12.8}$	+10.6	$\frac{+5.0}{9.3}$
-----	----------------------	-------	--------------------

+70	$\frac{+11.6}{10.9}$	+5.0	$\frac{0.0}{8.0}$
-----	----------------------	------	-------------------

93	$\frac{+4.8}{9.2}$	0.0	$\frac{-16.4}{29.6}$
----	--------------------	-----	----------------------

-150

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
126.00		172.9 4.6 38.3	
	S.	108 81.2	
166.51		25.0 115.2	
	S.	24.0 101.6	
248.31		18.7 143.3	
	S.	20.6 242.2	
300.15		16.5 4.0 135.8	
	S.	26.7 152.4	
473.48		26.7 113.9	
398.40		15.4 62.7	21.3
	S.		
334.85	0.00		
213.93			
93.65			
19.20	57.40	155.26	

Sta. Grade

	L	C.	R
93+15	$\frac{+26}{8.7}$	$\frac{00}{5.0} - 26$	$\frac{-186}{32.6}$
+35	$\frac{+34}{8.9}$	$\frac{00}{4.0} - 18$	$\frac{-260}{35.0} \frac{-47.6}{72.5}$
+45	$\frac{+34}{8.9}$	$\frac{00}{4.0} - 30$	$\frac{-240}{35.0} \frac{-39.4}{61.2}$
+50	$\frac{+26}{8.7}$	$\frac{00}{4.0} - 22$	$\frac{-7.2}{16.9}$
+70	$\frac{+44}{9.1}$	$+06$	$\frac{00}{3.0} \frac{-30}{11.1}$
+80	$\frac{+70}{9.8}$	$+3.1$	$\frac{00}{8.0}$
+90	$\frac{+94}{10.4}$	$+6.5$	$\frac{+26}{8.7}$
94	$\frac{+100}{10.5}$	$+7.3$	$\frac{+08}{8.2}$
+15	$\frac{+116}{10.9}$	$+3.6$	$\frac{00}{8.0}$
+30	$\frac{+128}{11.2}$	$+9.0$	$\frac{00}{8.0}$

-1.50

Areas.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.
390	11398 ^{s.}	1552.6 2.4	21.3 47.6
	^{s.}	4.7	157.5
		4.0	Emb 376.3 @ y.
680	31120 ^{s.}	1.4	made from cut
		2.5	102.3
680	24130 ^{s.}	0.9	
		1.1	26.8
520	4819 ^{s.}	3.9	
		9.8	20.1
2123	600 ^{s.}	1.5	
		14.2	0.7
55.59	600 ^{s.}		376.3
		1.3	
		30.7	Sta 90+20 to 95+90 Exp. 26861 @ y.
110.07	^{s.}	2.1	Class Slip Lo Rock 353.9 "
		41.0	Balance S. Rock. 2332.2 "
11146	^{s.}	3.6	Haul 133.5 So for
		53.3 "	348. N & made for
8042	^{s.}	9.7	1630-92+20 to 89+70 = 407.5
		60.6 "	319.95+05+85+95 = 2903
137.60		1805.4	Total haul 6978.

So
Boorq

Sta. Sta. Grade

93 94+45

L
+10.6
10.7

C.
+5.6

R.
0.0
8.0

+60

+12.6
11.2

+7.4

+12
8.3

+75

+15.1
11.8

+8.0

+15.6
9.4

+90

+20.4
13.1

+5.0

+10
8.3

95

+11.2
10.8

+6.0

+11.4
8.4

+15

+9.8
10.5

+5.4

+18
8.5

+25

+10.0
10.5

+4.7

0.0
8.0

+40

+19.6
12.9

+1.6

0.0
4.0
-12.4
24.1

+50

+17.0 +7.0
12.3 7.0

+1.3

0.0
1.0
-5.8
15.0

+60

+6.4
9.6

+2.0

0.0
4.0
-6.5
15.9

-1.50

Arreis.		Cob. yds.	
Exc.	Emb.	Exc.	Emb.
94.76		1805.4	64.5
	s.	11.0	61.7
127.38			
	s.	15.6	81.9
167.60			
	s.	15.5	85.2
139.10			
	s.	9.3	45.8
108.00			
	s.	9.4	57.1
97.70			
	s.	5.4	33.6
83.48	0.00		
	s.	6.1	48.7
			3.4
91.92	18.60		
	s.	4.7	27.5
			6.7
56.75	17.40		
	s.	5.9	17.8
			5.0
39.20	9.75	241.21	15.1

150

1.2 Boorg.

25.1

8 "



Boulder $3 \times 3 \times 6 = 2.0$ c.y.

Sta	Grade	L	C	R
995+70		$\frac{+45.00}{9.1}$	$10 - 0.4$	$\frac{-14.0}{26.3}$
+80	2.5	$\frac{+1.8}{8.5}$	$\frac{0.0}{3.0} - 1.4$	$\frac{-16.0}{29.0}$
+90		$\frac{0.0}{8.0}$	-4.0	$\frac{-20.4}{35.1}$
96		$\frac{-1.4}{9.1}$	-6.2	$\frac{-23.3}{39.1}$

Clearing - Sec. 1.

43 to 44+50	120' wide	= 18000	✓	Sq. Ft.
46 " 48	125 "	25000	✓	" "
48 " 52	110 "	44000	✓	" "
52 " 56	65 "	26000	✓	" "
56 " 60	90 "	36000	✓	" "
60 " 66	140 "	84000	✓	" "
66 " 74	70 "	56000	✓	" "
74 " 96	90 "	198000	✓	" "
11.8	Acres =	487000	✓	" "

Areas.		Cub. Yds.	
Exc.	Emb.	Exc.	Emb.
15.75	54.46	24.17 ¹ 20 10.2	15.1 11.9
		3.7	24.6
4.50	78.40		63.2 made from cut 50
		0.6	43.7
0.00	157.60	2430.5 255.6	balance 105.0 from
		2686.1	72.9 measured Pit. on sec.
235.87		168.2	Class 25% L.R. 26.25%
			" 75% S.R. 18.8 "
			Haul - 168

Box Culverts

B-53

66+27 ~ 2x2 1/2 x 144 inside	4727 F.B.M.
71+12 ~ 2x2 1/2 x 21 "	696 " "
	5423 ✓ "

JMS

Sec. 1. Borrow Pit in Cut

Sta 55+75 to 57+10 on L

L	Sta	L	C	R	Areas	Cub. Yds.
		$+194.80$	(15.3)	0.0		
9	55+75	146.12	(1.8)	10.0	56.22	6
		$+286$	$+174$	$+7.2$	(17.2)	20.0
	+90	330	270	144	(12.3)	11.0
		$+310$	$+156$	$(+18.3)$	$+28$	0.0
56		336	282	126	(11.0)	10.0
		$+340$	$+267$	$+5.0$	(20.0)	0.0
	+20	378	358	140	(13.0)	10.0
		$+312$	$(+18.8)$	0.0		
	+40	324	(12.7)	10.4		
		$+268$	$+6.2$	(12.0)	0.0	
	+50	268	138	(12.3)	10.0	
		$+234$	(15.3)	0.0		
	+60	206	(1.8)	10.0		
		$+216$	$(+10.4)$	0.0		
	+70	200	(10.6)	10.0		
		$+146$	(8.0)	0.0		
	+75	212	(10.0)	9.1		
		$+90$	$+20$	(5.2)	0.0	
	+90	220	(20.0)	(9.9)	13.0	
		$+156$	(3.2)	0.0		
57		326	(8.8)	10.0		
		(0.0)				
	+10		(8.0)			

figures in parentheses denote original surface

Class Borrow 5 Rock 735.0

6.0
735.0

Have 735 yds from 56+20 to 57+80 = 1176

Borrow Pit 59+90 to 61+15

		0.0				
		80				
59+90				0.0		
		$+246$	$+220$	$(+11.8)$	$+36$	0.0
60		420	400	(11.0)	96	9.0
		$+376$	$+120$	$+30$	(9.8)	20
+10		490	316	(15.0)	(10.5)	10.6
		$+182$	$+12$	(8.4)	0.0	
+25		300	(18.0)	(10.1)	8.0	
		$+226$	$+152$	$+26$	(7.0)	0.0
+40		356	328	(13.0)	(9.8)	9.4

337.2

Yds.

	L	C	R	Areas	Cub.Yds.
60 + 50	$\frac{+184}{31.4}$ $\frac{+11.4}{296}$ $\frac{162}{96}$ $\frac{00}{100}$			134.56	337.2 53.5 106.3
+65	$\frac{+218}{360}$ $\frac{+100}{320}$ $\frac{+12}{186}$ $\frac{178}{100}$ $\frac{00}{86}$			24800	80.2
+75	$\frac{+220}{336}$ $\frac{+162}{326}$ $\frac{+70}{220}$ $\frac{+88}{102}$ $\frac{00}{96}$			185.72	117.6
+90	$\frac{+268}{352}$ $\frac{+174}{338}$ $\frac{+50}{152}$ $\frac{+126}{112}$ $\frac{00}{90}$			23820	89.7
61	$\frac{+286}{356}$ $\frac{+210}{350}$ $\frac{+56}{134}$ $\frac{+166}{122}$ $\frac{00}{86}$			24642	127.5
+15	$\frac{352}{396}$ $\frac{310}{380}$ $\frac{110}{140}$ $\frac{1216}{134}$ $\frac{00}{80}$			21241	912.0

Hauled to Sta 58 - no haul allowed
should have been made near fill.

Borrow Pit - 60+90 to 64+25

60+90	$\frac{00}{80}$			0.0	1.4
61	$\frac{00}{10}$ $\frac{138}{90}$ $\frac{20}{135}$			11.45	12.4
+15	$\frac{352}{396}$ $\frac{310}{380}$ $\frac{110}{140}$ $\frac{1216}{134}$ $\frac{00}{80}$	$\frac{00}{96}$ $\frac{84}{104}$ $\frac{30}{160}$		33.15 245.59	109.4
+25	$\frac{364}{340}$ $\frac{212}{294}$ $\frac{110}{148}$ $\frac{250}{143}$ $\frac{00}{80}$	$\frac{00}{90}$ $\frac{114}{109}$ $\frac{40}{200}$		345.40	215.4
+40	$\frac{374}{326}$ $\frac{216}{304}$ $\frac{304}{156}$ $\frac{100}{144}$ $\frac{00}{80}$	$\frac{00}{88}$ $\frac{154}{118}$ $\frac{30}{200}$		430.02	176.8
+50	$\frac{400}{304}$ $\frac{244}{310}$ $\frac{204}{218}$ $\frac{340}{168}$ $\frac{140}{134}$ $\frac{00}{90}$	$\frac{00}{140}$ $\frac{180}{128}$ $\frac{60}{250}$		524.86	325.9
+65	$\frac{522}{404}$ $\frac{418}{394}$ $\frac{304}{260}$ $\frac{460}{198}$ $\frac{00}{94}$ $\frac{00}{120}$	$\frac{00}{120}$ $\frac{226}{137}$ $\frac{144}{190}$ $\frac{144}{260}$		648.39	262.2
+80	$\frac{498}{304}$ $\frac{370}{234}$ $\frac{474}{298}$ $\frac{00}{90}$	$\frac{00}{96}$ $\frac{252}{143}$ $\frac{148}{166}$		295.71	20.0 212.4
62	$\frac{540}{324}$ $\frac{374}{208}$ $\frac{502}{206}$ $\frac{00}{94}$	$\frac{00}{80}$ $\frac{210}{138}$ $\frac{298}{158}$ $\frac{270}{200}$		277.87	190.2
+30	$\frac{522}{284}$ $\frac{574}{209}$ $\frac{00}{92}$	$\frac{00}{72}$ $\frac{182}{112}$ $\frac{352}{168}$ $\frac{290}{216}$		64.45	48.7
+50	$\frac{500}{208}$ $\frac{00}{108}$	$\frac{00}{90}$ $\frac{140}{90}$ $\frac{252}{154}$ $\frac{310}{158}$ $\frac{280}{200}$		67.00	157.48

Borrow Pits in Cut - 60+90 to 64+25

L	L	R	Areas	Cu. Yds.
573	456 (452) 0.0 0.0 (280) 22.0	212 193 11.6 130 (150) 20.4	274.36	1574.8 158.0
62+75	446 (410) 0.0 0.0 7.0 (254) 16.8	210 183 16.0 110 12 (144) 21.4	228.28	93.1
+85	352 (348) 0.0 0.0 (198) 9.4 9.4	220 167 10.2 92 130 23.0 28.0	285.84	142.8
63	320 284 298 120 0.0 0.0 (138) 10 3.0	220 200 155 110 86 80 115 260 300	218.55	186.8
+20	270 (248) 134 0.0 0.0 (110)	190 142 90 76 26.0 108	58.82	170.8
+50	280 212 (246) 0.0 0.0 (88)	220 154 137 80 22.0 102	95.20	85.2
+75	262 (246) 146 0.0 0.0 (52)	198 142 110 80 120 93	27.48	56.8
64	242 (190) 0.0 0.0	180 126 92 80	51.44	21.9
+15	0.0	80	0.0	63
+25	0.0	80	0.0	2496.5

Class borrow Solid Rock 2496.5 Cu.

Haul 2496 from 61+95 to 66+05 = 10234

Borrow Pit - 67+45 to 70+60

67+45	0.0	8.0	0.0	11.7
+50	190 0.0 (0.0)	446 280 (80)	190.00	98.5
+60	218 42 (30) 0.0	460 386 (88) 27.0	341.92	118.9
+70	220 (60) 0.0 0.0	402 (95) 28.0 80	300.10	195.0
+85	360 186 (120) 0.0 0.0 (32)	570 360 110 20.0 186 (88)	401.96	378.3
68 105	420 360 220 (214) 0.0 0.0 (90)	546 520 340 134 140 320 103	619.42	443.9
+20	504 (294) 0.0 0.0 (142) 32	546 154 190 320 116 320	978.78	1246.3

Sta.	L	C	R	Areas	Cu. Yds.
68+40	56.0 224 348 50 00 (214) 15.0 532 336 167 140 100 180 134 280			1010.14	12463 736.6
+65	65.4 (400) 156 00 00 (256) 20.2 548 180 166 94 116 144 270			75102	815.4
+85	582 460 334 (450) 206 80 00 00 (296) 24.4 464 400 344 193 192 130 104 84 (154) 286			80687	577.0
69+10	586 430 322 (442) 184 00 00 (280) 230 480 418 246 191 172 108 80 (150) 242			72852	100.0 710.6
+25	52.6 (420) 148 00 00 (264) 130 132 412 185 150 90 84 146 150 220			467.91	332.3
+49.7	458 (392) 148 00 00 (240) 180 368 178 144 94 80 120 (140) 210			34386	371.3
+44.0	404 216 (346) 100 00 00 80 (230) 146 354 142 167 140 120 100 110 138 200			36536	210.1
+60	372 188 (326) 00 00 (186) 80 120 340 184 162 126 74 (127) 200 220			37916	137.9
+70	270 210 (256) 00 00 30 (150) 50 122 200 186 146 110 74 90 118 180 200			20022	160.8
+85	198 204 00 00 50 (114) 100 230 (131) 100 76 90 109 134			12909	915
70	142 (130) 00 00 70 (82) 101 174 113 94 80 90 101			4436	642
+20	134 (122) 00 00 140 (111) 90 80			2253	18.6
+35	50 (46) 00 120 (92) 94			970	9.0
+50	00 80			0.0	12
+60	00 80			0.0	5492.8

Deduct from Borrow Pit Boulders [and waste] rolls from top of cut 169.3

Class 10% Loose Rock 90% S.R.

53235

Have 4323.5 Cu. Yds. from 68+40 to 66+35 = 9079.

" 1000. " " 69+60 to 75+30 = 5700.

Section 1

Borrow Pits in Cuts

80+25 to 80+90

Sta	L	C	R	Areas	Cub. Yds.
80+25	$\frac{96}{114}$	$\frac{81}{103}$	$\frac{00}{78}$	$\frac{00}{80}$	23.53
+35	$\frac{172}{280}$	$\frac{102}{105}$	$\frac{00}{142}$	$\frac{00}{100}$	30.2
+60	$\frac{178}{280}$	$\frac{100}{105}$	$\frac{00}{160}$	$\frac{00}{80}$	133.6
+70	$\frac{164}{220}$	$\frac{98}{105}$	$\frac{00}{88}$	$\frac{00}{80}$	37.7
+90	$\frac{116}{162}$	$\frac{84}{101}$	$\frac{00}{90}$		30.6
				28.06	232.1

Class Borrow $\frac{1}{2}$ L.R. 116.1 C.Y.
 $\frac{1}{2}$ S.R. 116.0

Hauled into fill Sta 75+ ~ No haul allowed should
 { have been made near fill

Borrow Pit ~ 87+40 to 88

87+40	$\frac{00}{80}$				0.0
+45	$\frac{44}{320}$	$\frac{00}{80}$	$\frac{00}{220}$		1.9
+50	$\frac{66}{380}$	$\frac{10}{83}$	$\frac{00}{320}$		11.5
+60	$\frac{88}{380}$	$\frac{30}{88}$	$\frac{00}{320}$		42.9
+75	$\frac{100}{288}$	$\frac{64}{96}$	$\frac{00}{200}$		71.3
+85	$\frac{102}{208}$	$\frac{86}{102}$	$\frac{00}{90}$		31.0
88	$\frac{140}{210}$	$\frac{120}{110}$	$\frac{00}{84}$		30.2
				59.80	188.8

Class Borrow $\frac{1}{2}$ L.R. 94.4 C.Y.
 $\frac{1}{2}$ S.R. 94.4 "

Haul 188.8 yds from 87+70 to 85+80 = 359.

Excavation for Cart Roads around 74
Cut R Station 62 - UPPER ROAD.

Sta	L	R	Areas	Cu.Yds.
61+40 = 0	0.0		0.0	
+25	$\frac{0.0}{18.0} + \frac{26}{10.0}$	0.0	23.40	7.2
+65	$\frac{0.0}{22.0} + \frac{3.0}{10.0}$	0.0	33.00	41.8
1	$\frac{0.0}{28.0} + \frac{13.4}{13.0}$	0.0	42.50	48.9
+40	$\frac{0.0}{13.0} + \frac{3.4}{5.0}$	0.0	22.10	47.9
+75	0.0		0.0	9.5

LOWER ROAD

60+90 = 0	0.0		0.0	
+20	$\frac{0.0}{13.0} + \frac{2.0}{8.0}$	0.0	13.00	3.2
+60	$\frac{0.0}{15.0} + \frac{2.8}{8.0}$	0.0	21.00	25.2
1	$\frac{0.0}{13.0} + \frac{1.6}{6.0}$	0.0	10.40	23.3
+45	$\frac{0.0}{17.0} + \frac{3.6}{7.0}$	0.0	30.60	34.2
+70	$\frac{0.0}{17.0} + \frac{4.8}{4.0}$	0.0	40.80	33.1
2+20	$\frac{0.0}{11.0} + \frac{3.8}{3.0}$	0.0	20.90	57.1
+55	0.0		0.0	9.0

Class Exc. S.R. 340.4 Cu.Yds.

Rip Rap Wall on Lower Road ✓

$$2.5 \times 5.0 \times 8.0 = 34.0 \text{ Cu.Yds.}$$

✓ *[Signature]*

Section 1

Pages	Acres	Clearing	Excavation - Cub. Yds.			Cub. Yds.		C. Yds. Banks made from cuts
			Total Cut	Lo. Rock	S. Rock	Total Banks		
39			✓	✓	✓	✓	✓	✓
41			7824.4	1574.3	6250.1	5948.9	5948.9	
42			✓	✓	✓	✓	✓	✓
43			1268.5	86.9	1181.6	6831.5	6831.5	
46			✓	✓	✓	✓	✓	✓
47			4585.7	409.7	4176.0	7408.0	5761.0	
48			✓	✓	✓	✓	✓	✓
51			9726.0		9726.0	22.4	22.4	
53			✓	✓	✓	✓	✓	✓
54			5978.1	580.3	5397.8	21200.0	14380.0	
57			✓	✓	✓	✓	✓	✓
58			337		337	1175.6	1175.6	
60			✓	✓	✓	✓	✓	✓
61			2806.2	484.2	2322.0	9310.6	8078.5	
64			✓	✓	✓	✓	✓	✓
66			1902.5	173.0	1729.5	69.0	69.0	
69			✓	✓	✓	✓	✓	✓
71			3018.3	284.8	2733.5	59	59	
74			✓	✓	✓	✓	✓	✓
11.18			1645.3	269.9	1375.4	4868.1	4679.3	
			✓	✓	✓	✓	✓	✓
			2686.1	353.9	2332.2	2115.4	2115.4	
			✓	✓	✓	✓	✓	✓
			340.4		340.4	1376.3	1376.3	
			✓	✓	✓	✓	✓	✓
			11.18			168.2	63.2	
			✓	✓	✓	✓	✓	✓
			11.18	41815.2	4217.0	37598.2	68704.5	58711.6

Summary

75

Borrow-Cu. Yds.	Cu. Yds.	Cub. Yds.	Cub. Yds.	F.F.B.M
Lo. Rock	S. Rock	Haul	Slope Wall	Rip Rap
		20106.		Lumber
		1190.		Culverts
		7878.		
	1647.0	1176.		
		25056.		
4323	6387.7	19313.		
		16670.		
		5170.		
216.1	1016.0	5700		
		2340		
		7131		
94.4	944	359		
		2793		
		6978		
26.2	788	168		
			37.0	5423.
7690	92239	122028	37.0	5423.

✓ [Signature]

SECTION 1 COST

CLEARING	✓ 11 ¹⁸	✓ ACRES @	✓ 35.00	✓ 391.30
EXCAVATION L. ROCK	✓ 4217.0	✓ Cu. Yds.	✓ 0.45	✓ 1897.65
" S. ROCK	✓ 375982	"	✓ 0.90	✓ 33838.38
BORROW L. ROCK	✓ 7690	"	✓ 0.40	✓ 307.60
" S. ROCK	✓ 92239	"	✓ 0.90	✓ 8301.51
HAUL 100ft.	✓ 122028		✓ 0.015	✓ 1830.42
RIP RAP	✓ 37.0		✓ 1.00	✓ 37.00
LUMBER FT. B.M.	✓ 5423		✓ 12.00	✓ 65.07
				✓ 46668.93

1 ~~PAID~~

91.30

97.65

88.38

07.60

01.51

0.42

7.00

5.07

8.93

✓ *[Signature]*





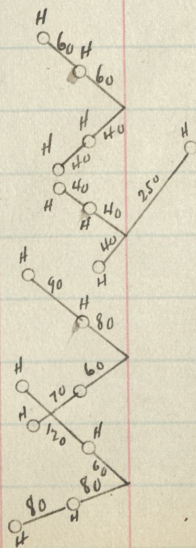


100+99.7 P.T.

95+02° P.S.

93+76° P.T.

89+66° P.S.



Reference Points

78

86+115 P.T.

81+55.3 P.C.

77+30.3 P.C.

= 69+44.0

69+49.7 P.T.

63+18.7 P.S.

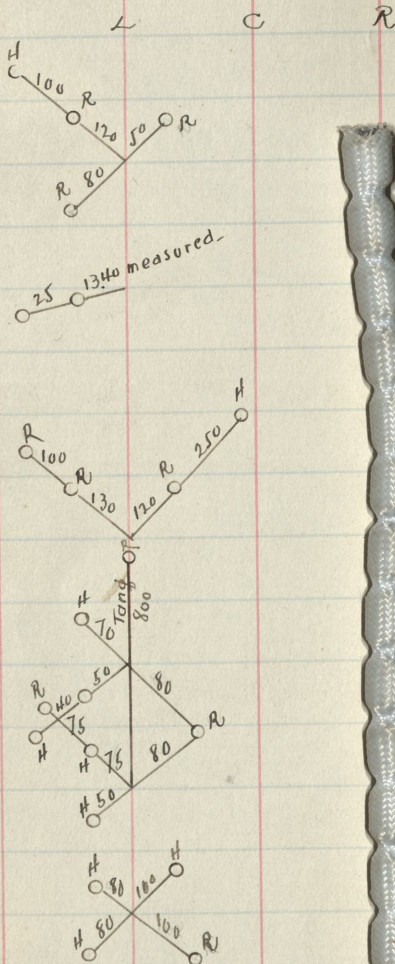
62+38.7 P.T.

57+35.0 P.S.

= 51+27.6

51+22.4 P.T. = 1421+82.6

49+14.1 P.C. = 1423+90.9



Reference Points

C

R

$$148 + 146.2 \text{ P.T.} = 1424 + 59.4$$

$$44 + 84^6 \text{ P.S.} = 1428 + 21.0$$

$$43 + 24.9 \text{ P.T.} = 1429 + 81.1$$

$$39+12 \text{ P.S.} = 1433+94$$

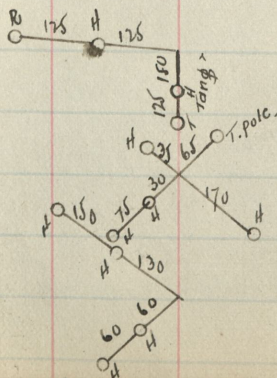
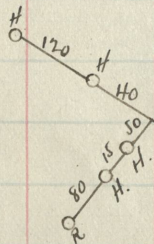
27+73.6 P.T.

25 + 20.³ P.C.

23+98.8 P.T.

19 + 30 P.C.

16+025 P.T.



Reference Points

79

11 + 32.5 P.C.

10 + 352 P. 4.

7+15² P.C.

5 + 71.7 P.T.

L 2+16.7 P.C.

"N" 5+89.9

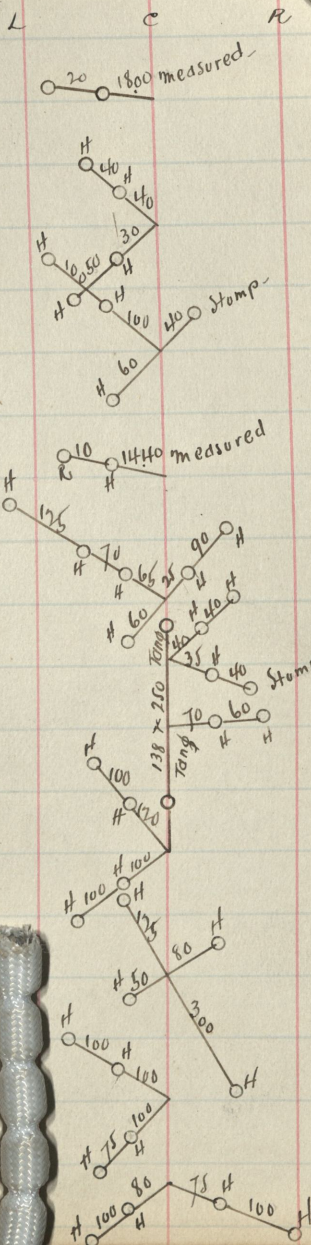
B5+13.8 P.T.

"B" 1 + 77.6 P.C.

D 6 + 11° P.T.

D 3706.3 Pl.

"D" 14564 P.T.



Bench Marks

Elevation

	On Oak Tree	65' L N"	7+25	5825.78
48+4	On " "	125' L	5	5813.41
	On " "	75' R	16	5762.16
44+84	On " "	100' L	30	5729.42
	On Rock	25' L	40	5702.92

43+24

39+12

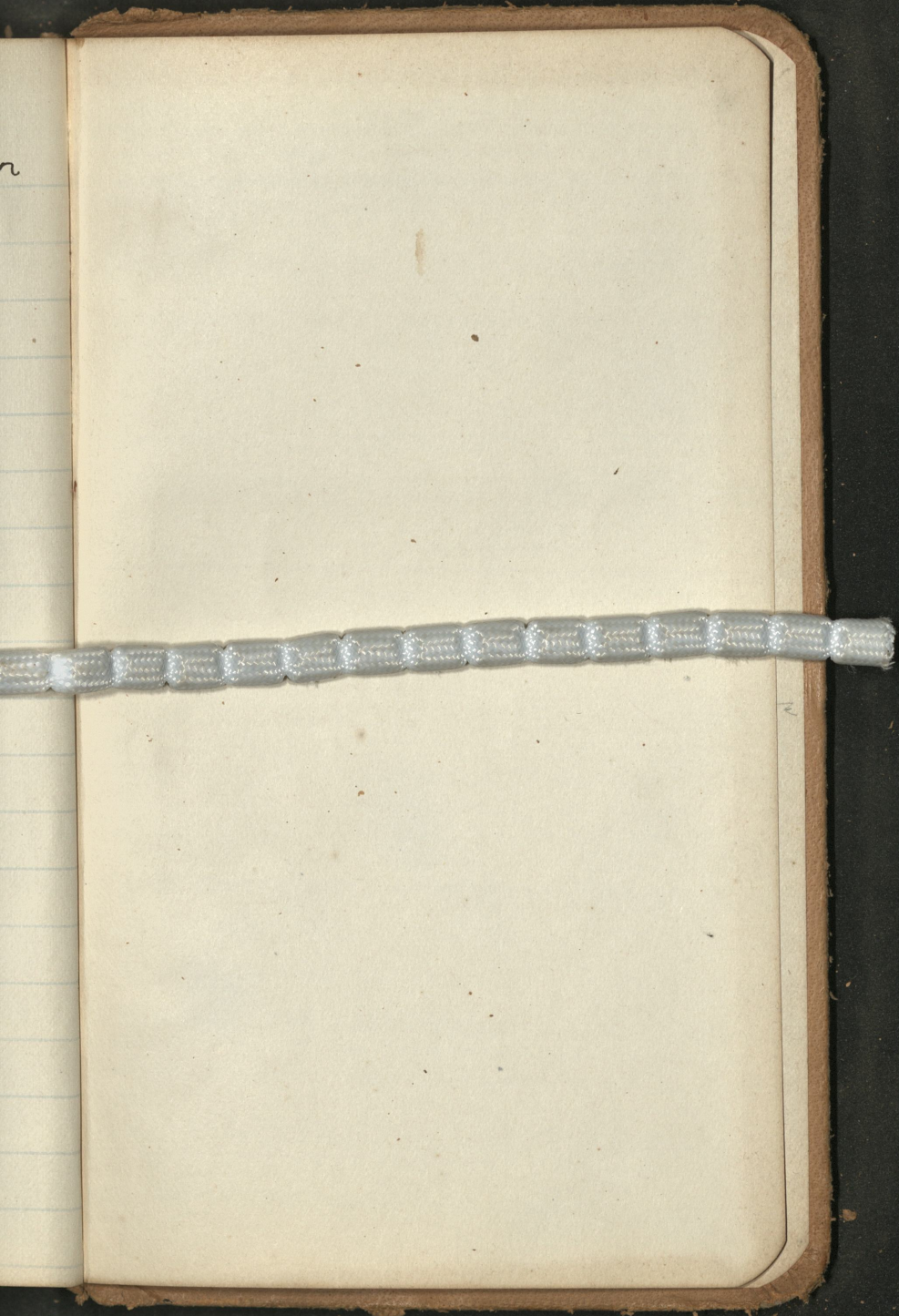
27+73

25+20

23+98

19+30

16+02



178+

144+

143+

139+

27+

25+

23+

19-

16+



